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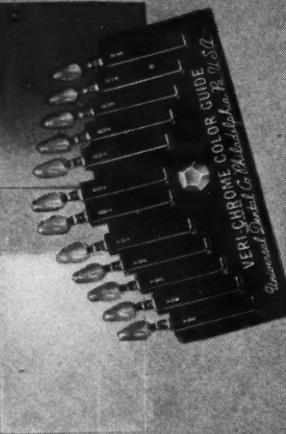


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THE
DENTAL
Digest

VOL. 52

NO. 1

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About Our
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sylvania, in 1940. He wrote for us in October 1944 with Lieutenant Colonel Clinton T. Brann, their article being a case report of bite raising. Captain Durrer discusses here THE USE OF THE CENTRAL BEARING POINT FOR BALANCING FULL UPPER AND LOWER DENTURES.

LESTER BERNARD OLDER, D.D.S. (University of Maryland Dental School, 1934) stresses the diagnosis and treatment of periodontal disease in his general practice. In our March 1944 issue Doctor Older discussed the use of surgery and splints in

the treatment of periodontal disease. In this issue he discusses THE CONSERVATIVE TREATMENT OF HYPERSTROPHIC GINGIVITIS.

ARCHIE FREDERICK LAMBEK, D.D.S. (University of Michigan, College of Dentistry, 1928) is in general practice. Miss PHYLLIS GUIDER is a Medical Technician. These co-authors report a clinical investigation of the use of sulfathiazole, allantoin-sulfathiazole combination, and chromic acid-hydrogen peroxide in the treatment of Vincent's infection.

WILLIAM W. MARVEL, D.M.D. (Harvard University Dental School, 1900) emphasizes oral surgery in his general practice. Doctor Marvel has contributed numerous articles to the dental literature. He presents here A CASE REPORT OF TRIFACIAL PAIN CAUSED BY A DENTIGEROUS CYST.

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JANUARY, 1946

Restoration of Fractured Incisors in Children

M. R. STERN, D.D.S., Brooklyn

Preservation of vital fractured teeth in children may be accomplished successfully by conservative pulp treatment and capping. Doubtful cases may be temporarily restored quickly and easily for observation and study. Others may receive more lasting restorations by the use of a cast skeleton filled with porcelain or an acrylic material. These fractured teeth thus can be restored permanently to proper esthetics and function without mutilation of the neighboring teeth.

DISTURBING indeed is the problem presented in a fractured central or lateral incisor in a child. The pulp often is involved and may be exposed, or the dentine may be so thin that the pulp shows through. To devitalize the pulp may mean dealing with a partly formed root and the difficulty of filling a funnel-shaped canal. The recuperative powers of the healthy child are in the operator's favor if preservation of the tooth is indicated. The operator is justified in attempting the preservation of the pulp even where the exposure is large enough to bleed and display pulsation. A sedative paste under a saucer-shaped disc of annealed copper or aluminum (Fig. 1) teased over the exposed pulp without pressure and covered with a thin layer of cement oxyphosphate often will result in preservation of the vitality of the tooth.

Temporary Restoration

Where capping of the pulp is tolerated and a temporary restoration is desired, the following technique has been found for preparing a restoration that is protective and esthetically pleasing:

1. Reduce the cingulum and the approximal convexities if necessary.
2. Fit and contour an aluminum or copper band to the tooth preparation.
3. Press the incisal end of the band buccolingually to obtain contact with the approximating teeth.
4. Cut away the labial surface of the band, leaving only $\frac{1}{16}$ inch at the neck as in making an open-faced crown.
5. Trim the lingual and approximating surfaces of the band slightly longer than required (length of neighboring teeth).
6. Contour and crimp this extra length of the band toward the labial to receive the impact of the lower teeth in articulation.

7. Polish and cement to place.
8. Fill with silicate cement.

Refinements of Technique—Silicate cements discolor in contact with copper, so wherever possible use an aluminum band. Either metal may be coated on the inside with a white or ivory-colored lacquer similar to that used for nail polish.

Sometimes a window may be cut in the lower part of the lingual surface of the band, thus obtaining the advantage of translucency of the silicate. This temporary arrangement is economical, can be constructed at the chair, is pleasing to the eye, and may be worn for many months, even years.

Semi-Permanent Restoration

Where no exposure of the pulp occurs or where success with pulp capping seems assured, a more permanent and more esthetic restoration is indicated.

1. The tooth is prepared as for a modified three-quarter crown (Fig. 2):

- a) The sides are paralleled.

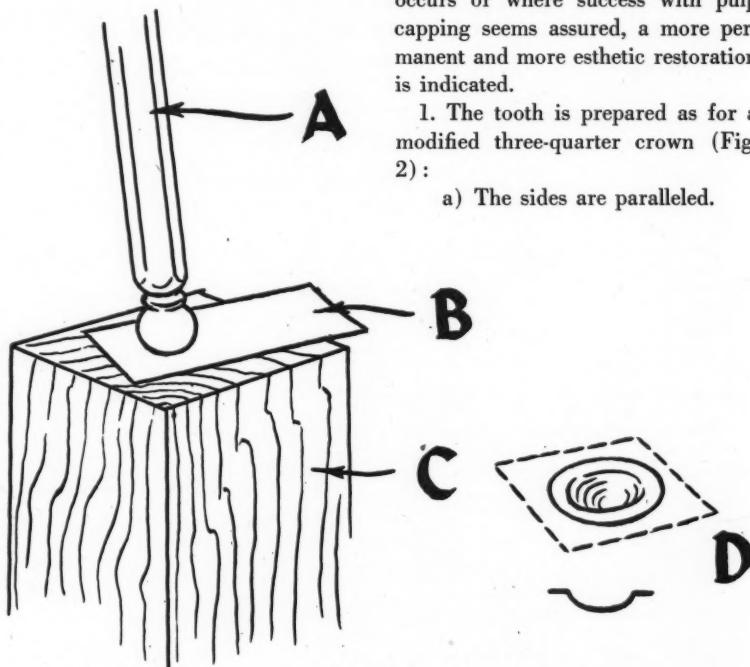


Fig. 1—A method of making a metal disc for pulp protection: (A) Ball burnisher, or instrument handle with ball end, for contouring the annealed copper or aluminum (B) on a block of wood (C). (D) Saucer-shaped disc with short lip to rest on the dentine.

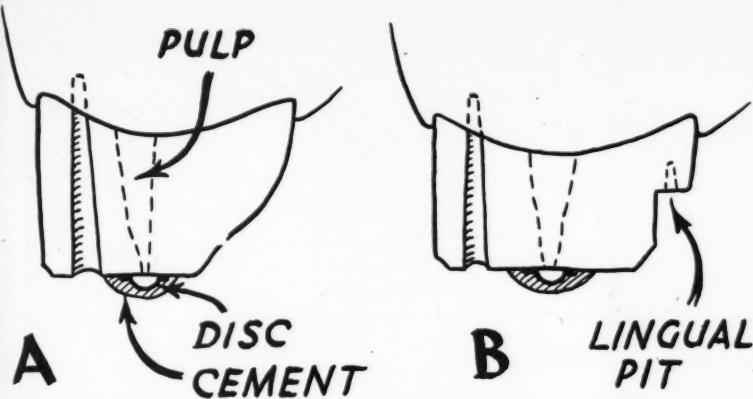


Fig. 2—(A) Tooth prepared as for a modified three-quarter crown, with the disc in place over the pulp. (B) An additional pit is sunk in the lingual groove of a stubby tooth preparation for stability and retention.

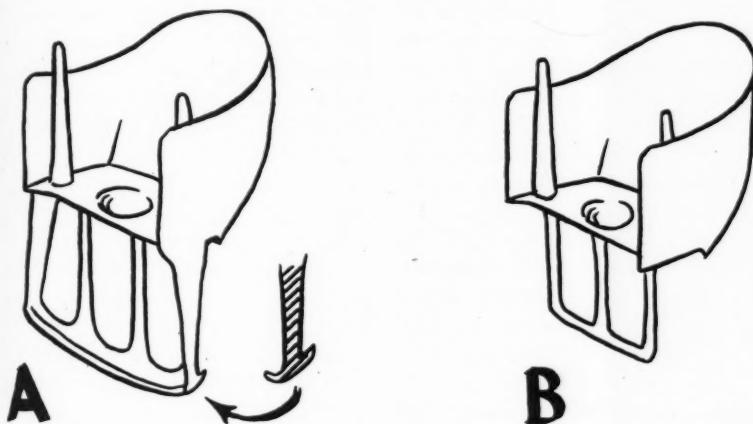


Fig. 3—The cast frames for retaining the restoration of the incisal part of the tooth: (A) for silicate cement; (B) for acrylic.

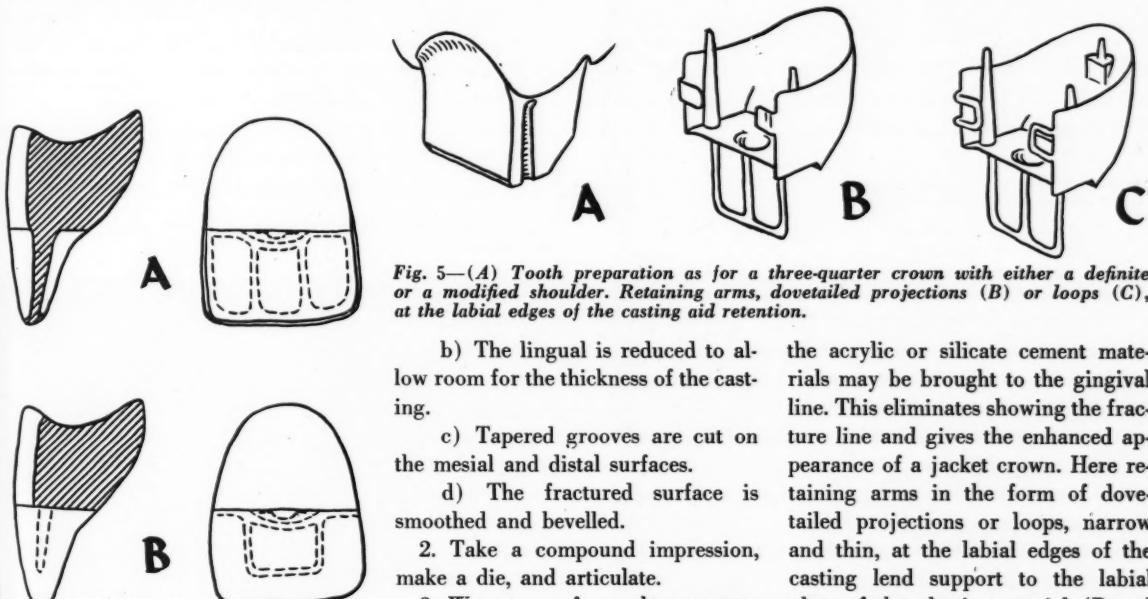


Fig. 4—Contour of tooth restored with (A) silicate cement or (B) acrylic over the cast frames.

the center of the broken surface to include the incisal edge. The incisal edge is made heavier at the lingual, coming to a knife edge on the labial. This is cast (A in Fig. 3), tried in the mouth, polished, and cemented to place.

4. Silicate cement is used to restore the contour (A in Fig. 4). A celluloid form will help condense and contour the restoration.

Should the operator desire to use acrylic, the cast grid should be much reduced in size so as to be entirely embedded in the acrylic material (B in Fig. 3). Here the restoration is waxed up in the mouth and then is processed, polished, and cemented to place (B in Fig. 4).

Refinements of Technique—1. When the grooves are short, as in stubby teeth, a pit at least $\frac{1}{16}$ -inch deep may be sunk at the bottom of each groove (B in Fig. 2).

2. Another pit may be sunk in the region of the cingulum, but this is often unnecessary if the impression is carried well up under the gingiva on the lingual. It does, however, give more stability and retention (B in Fig. 2).

3. By reducing the labial aspect of the stump either with or without shoulder formation (A in Fig. 5),

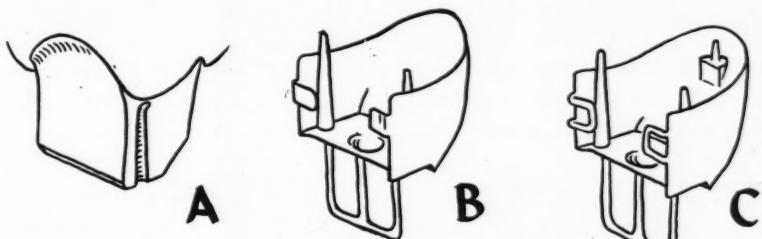


Fig. 5—(A) Tooth preparation as for a three-quarter crown with either a definite or a modified shoulder. Retaining arms, dovetailed projections (B) or loops (C), at the labial edges of the casting aid retention.

b) The lingual is reduced to allow room for the thickness of the casting.

c) Tapered grooves are cut on the mesial and distal surfaces.

d) The fractured surface is smoothed and bevelled.

2. Take a compound impression, make a die, and articulate.

3. Wax up as for a three-quarter crown with an extension in the form of a grid or mesh extending from

the acrylic or silicate cement materials may be brought to the gingival line. This eliminates showing the fracture line and gives the enhanced appearance of a jacket crown. Here retaining arms in the form of dovetailed projections or loops, narrow and thin, at the labial edges of the casting lend support to the labial plate of the plastic material (B and C in Fig. 5).

2945 Avenue T.

Surgery of the Torus Palatinus

P. PHILIP GROSS, D.D.S., Philadelphia

The greatest difficulty encountered in the surgical removal of a torus palatinus is in holding the tissue flaps of the operative wound in position until complete healing has taken place. In the operative procedure described here an acrylic-wire splint and gauze are applied to maintain an even pressure over the wound until it is completely healed.

Types of Torus Palatinus

The torus palatinus is a hard, solid, normal protuberance of the osseous structure in the vault of the palate (Figs. 1 and 2). It is a structure seen in persons of all ages—even in the newborn, according to Dorrance¹—but it begins to attain an appreciable size at puberty, gradually enlarging until the person is about thirty years old. It is covered with normal mucoperiosteum and assumes many sizes and shapes. It may appear as a small “teardrop” in the center of the palate or may completely cover the hard palate area. It may be single or lobulated, flat or pedunculated, short or long,

narrow or wide, single on one side and lobulated on the other (Fig. 3).

Treatment Procedures

When the torus palatinus interferes with the construction of a prosthetic appliance, it should be removed. The operative technique for its removal has been described in the dental literature. No attempt has been made, however, following the description of the operative procedure, to describe a technique for keeping the mucoperiosteal flaps against the osseous structure during the healing process. These flaps have a tendency to drop away from the vault, like wallpaper falling away from the ceiling. When replaced and held against the vault, the mucoperiosteum heals with less postoperative complications.

The splint that I described in a publication in 1942² is being used successfully in cleft palate surgery. This appliance maintains an even pressure of the mucoperiosteal flaps against the vault of the palate, and is readily adaptable to any torus palatinus operative procedure. The

splint is made of acrylic resin with 14-gauge wire embedded in the acrylic and extending from side to side. These wires act as a crib to hold the gauze in position against the flaps.

The operative procedure described here is for the removal of a torus in a case of injury (Fig. 4). The patient became aware of the mass in the palate and picked at it with a fork. Removal of the torus was the only procedure to allay his fear of malignancy.

Operative Procedure

1. A longitudinal, semilunar incision was made, extending beyond the length of the torus. The incision was carried through the mucoperiosteum to the osseous structure (Fig. 5).

2. The mucoperiosteum was elevated and retracted, exposing the bony torus in its entirety. The mucoperiosteal flap was held in position by means of stay sutures attached to the teeth (Fig. 6).

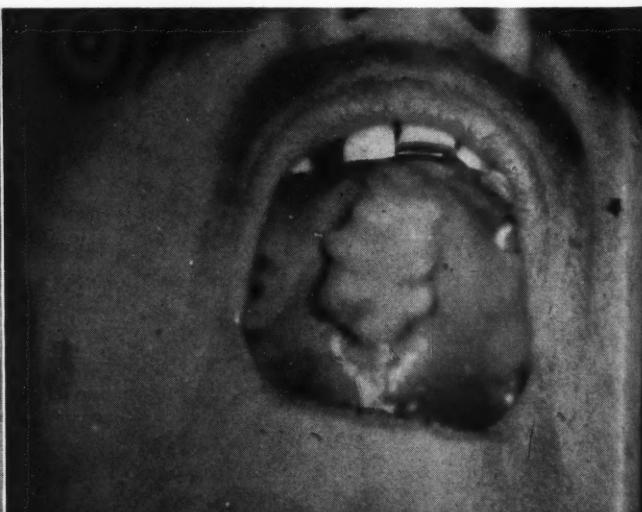
3. The torus was removed with the rongeur forceps (Fig. 7), and the remaining osseous structure was

¹Dorrance, G. M.: The Operative Story of the Cleft Palate, Philadelphia, W. B. Saunders Co., 1933.

Fig. 1—Torus palatinus in the distal part of the palate.

²Gross, P. P.: A Method of Keeping the Palatal Mucoperiosteum Against the Bony Structures Following Cleft Palate Surgery, Am. J. Orthodont. & Oral Surg., 28:522-524 (September) 1942.

Fig. 2—Lobulated, bilateral torus over the entire length of the palate.



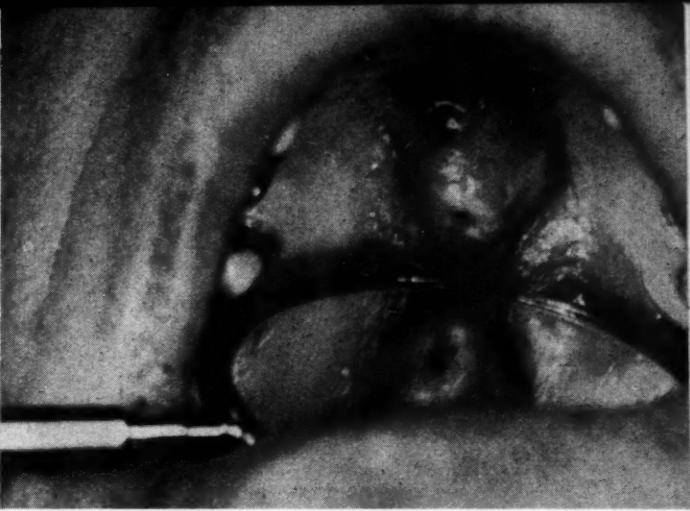
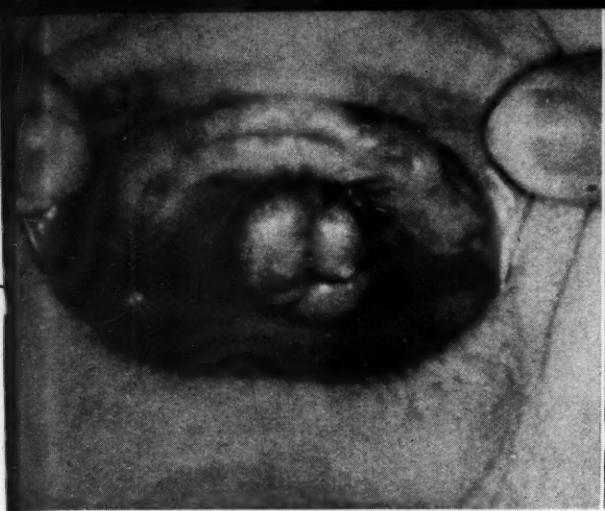


Fig. 3—*Lobulated torus palatinus of the undercut type.*

Fig. 4—*Torus palatinus traumatized in eating.*

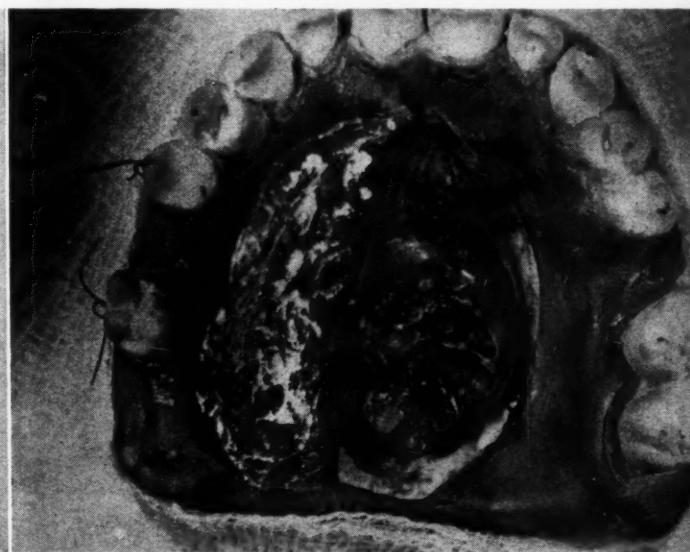
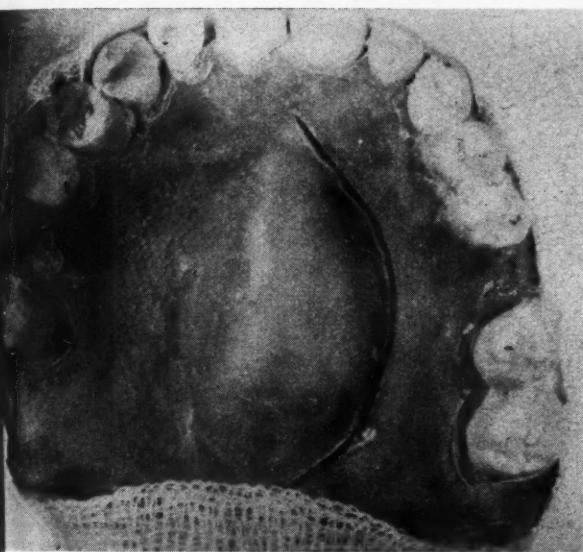


Fig. 5—*A longitudinal, semilunar incision was made through the mucoperiosteum to the osseous structure.*

Fig. 6—*The mucoperiosteum was retracted, the torus exposed, and the flap tied to the teeth.*

smoothed with a revolving file on the dental engine (Fig. 8). Great care must always be exercised not to per-

forate the palate during this part of the operative procedure.

4. The area was then cleaned of

spicules, the excess flap was trimmed to allow for the normal contour of the palate (Fig. 9), and the attached

Fig. 7—*The torus was removed with rongeur forceps.*

Fig. 8—*A revolving file was used for smoothing the osseous structure.*

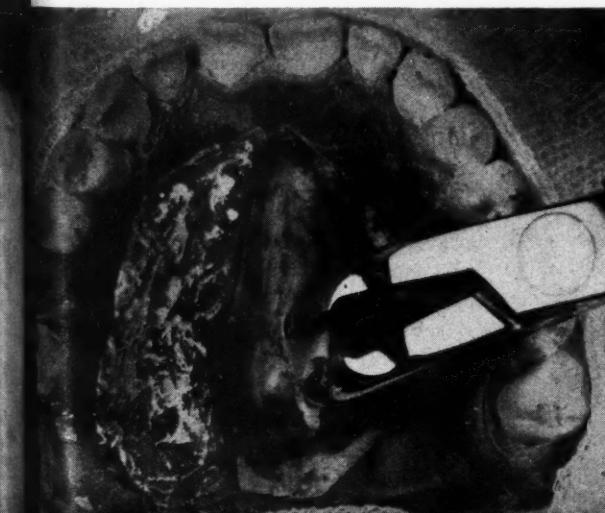




Fig. 9—The excess flap was trimmed, and the attached tissue raised slightly.

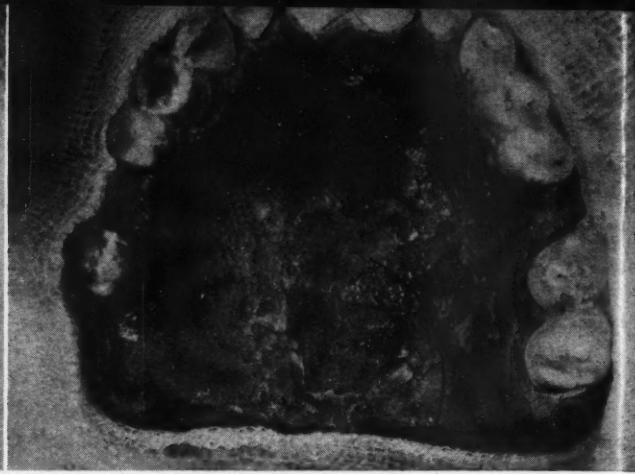


Fig. 10—Mattress sutures were used to coapt the edges of the tissue.

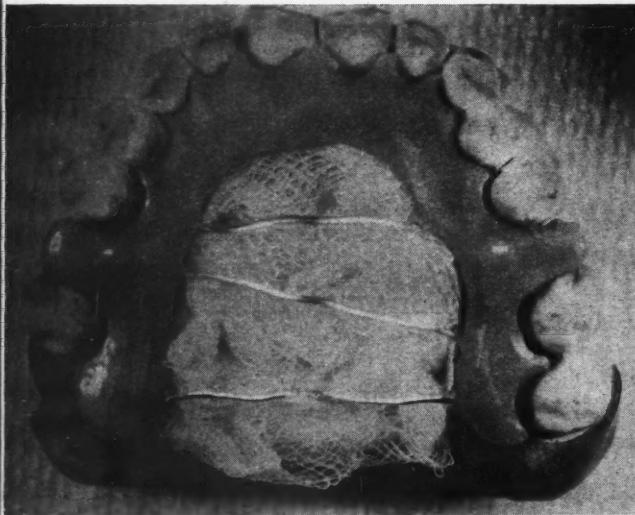


Fig. 11—Acrylic splint with wires to hold the gauze in position against the tissue flap.



Fig. 12—The palate one week after surgical removal of the torus.

side of the tissue was raised slightly from the supporting osseous structure to allow sutures to pass through the tissue without tearing it.

5. Mattress sutures were placed in position, coaptting the edges of the tissue (Fig. 10). (Many of the descriptions of operative procedures for the torus palatinus stop at this point. The sutures are not enough to hold the flap up, however, and after a few days it drops from position.)

6. Iodoform gauze was packed lightly against the flap, and the splint was placed in position (Fig. 11) to act as a crib to keep the gauze against the flap. This, in turn, maintained an even pressure, and the operative wound healed quickly. The pressure of the splint against the teeth keeps the splint in position, but clasps may be added if necessary.

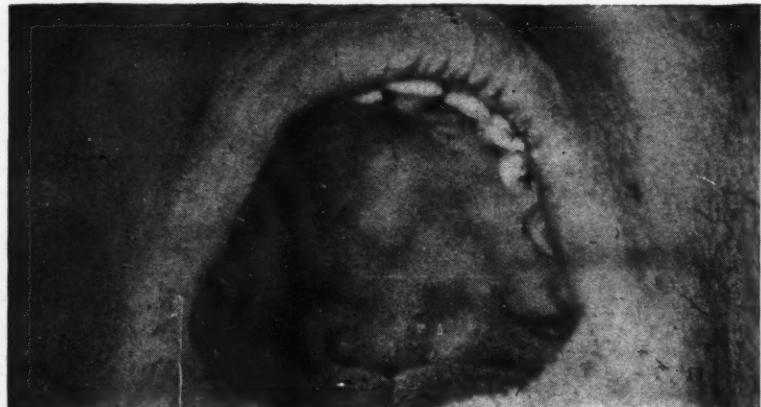


Fig. 13—The palate two weeks after surgical removal of the torus.

7. The splint was removed after one week (Fig. 12). Figure 13 shows the palate two weeks after surgical removal of the torus.

The type of pressure splint described here, with various modifica-

tions, has been used in all types of palatal surgery where reattachment of the mucoperiosteum to the osseous structure is indicated.

6740 Torresdale Avenue.

The Use of the Central Bearing Point for Balancing Full Upper and Lower Dentures*

Captain GUSTAV T. DURRER (DC) AUS, Camp Forrest, Tullahoma, Tennessee

A technique is suggested whereby the occlusion of full dentures is balanced properly by the use of an adjustable screw, which acts as a central bearing point in the upper denture, and a brass or copper plate strong enough to take up the pressure and act as a bearing plate in the lower denture.

IN MAKING full dentures we often find that the impression is the center of interest. Most of the time is spent on this step, with little attention being given to securing a well balanced occlusion. This does not mean, of course, that the impression is not important and is to be neglected. This initial step, however, seems to be overemphasized, while the last one, the proper balancing of the occlusion, often is considered of little importance.

Many full upper and lower dentures are considered completed when the upper and lower teeth touch each other and have good interdigitation. The patient is forced to adopt an open and closed chop bite. If the mandible moved as a hinge, there would be no difficulty, but the condylar movements are entirely different. Our difficulties occur because the occlusion is locked and the resulting lateral pressure traumatizes the ridges. The patient will return, therefore, complaining of sore spots. The area can be relieved by grinding locally on the denture base. The patient will find temporary improvement but will keep returning with new sore spots. When the dentures begin to settle and the mandible shifts mesially, trauma and resorption of the alveolar bone increase with formation of flabby

ridges and inflamed mucous membranes. Everybody who has had the opportunity to observe a great number of full dentures will agree with Payne's¹ statement: "If we examine one hundred cases where dentures are failures, we should find three or four patients whose expectancy is too great, five or six whose dentures do not fit because of faulty impression technique, fifteen or twenty where the vertical dimension or bite registration is faulty, and the other sixty where the trouble lies in poor articulation overloading the ridges."

Method of Securing Balanced Occlusion

The central bearing point, which was first used by Hall² for grinding in the occlusion, is a great help and time-saving device in securing a balanced occlusion, using the mouth as an articulator. The central bearing point helps to stabilize the dentures,

¹Payne, S. H.: The Fallacy of Balanced Articulation, New York J. D. 14:151-154 (April) 1944.

²Hall, Ruppert: Full Denture Construction, J.A.D.A. 16:11 (July) 1929.

holding them firmly in position. They are otherwise too unstable to resist the displacing forces of the interfering high spots.

1. The method utilizes an adjustable screw (Fig. 1) which is attached to the finished upper denture with compound, and a bearing plate likewise attached to the lower denture just below the occlusal surface (Fig. 2). When inserted in the mouth the screw is lengthened to such an extent that its point will touch the bearing plate, holding the dentures apart and the teeth out of occlusion.

2. The patient now is instructed to move his lower jaw in all possible directions, keeping the point of the screw in contact with the plate.

3. The screw is closed down, permitting the patient to close his lower jaw until he can feel the first cusp interference while moving the jaw in all directions. Articulating paper is used to mark the points of interference.

4. The dentures are now taken out of the mouth and the high spots are ground down with a stone.

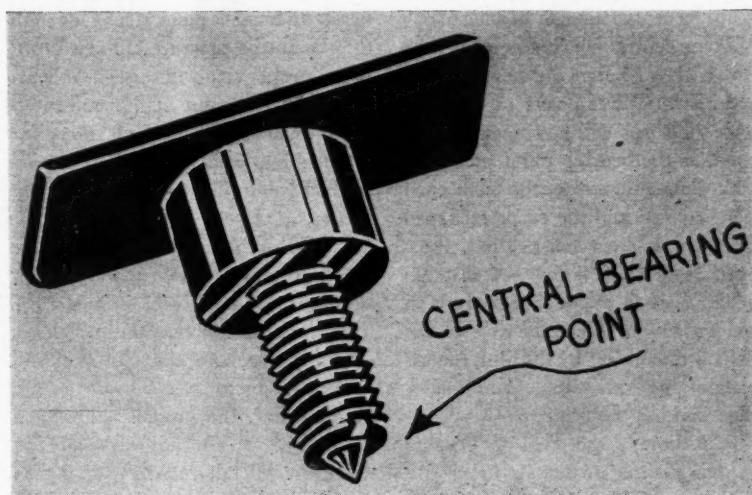


Fig. 1—An adjustable screw which is to be attached to the finished upper denture to act as the central bearing point. (Photographs by United States Army Signal Corps.)

*The technique presented in this paper is that of the author and does not express the policies or opinions of the Army Dental Corps.



Fig. 2—(Left) The adjustable screw, attached to the finished upper denture with compound, acts as the central bearing point. (Right) A bearing plate attached to the lower denture just below the occlusal surface.

5. The screw is closed a quarter of a turn, the dentures are returned to the mouth, and the patient is instructed to repeat the same movements. The points of interference are marked with articulating paper and ground down for the second time. This is repeated until all the points of premature contact are reduced and a complete balance is established.

6. The bearing point and the plate are now removed from the dentures and the procedure can be followed up by having the patient chew carborundum paste and grind the dentures into an even finer degree of balance.

7. The central bearing point is used primarily for balancing nonanatomic teeth. If 30-degree posterior teeth are used, the cusps will be somewhat flattened, as the bearing point moves on a flat plane; therefore, the teeth must be regrooved and the cusps reshaped to enable efficient mastication. Inasmuch as the bite is lowered through grinding, it is a good procedure to compensate for the reduction of the vertical dimension by opening the articulator approximately 1 millimeter when making the setup.

8. Although the central bearing point is a great help in obtaining a good balanced occlusion, we cannot expect the impossible. We must start

with a denture which is properly set up in order to obtain a satisfactory result. Special attention should be given to the anterior teeth. They should be arranged so that they can move freely over each other when the lower jaw goes into a protrusive position. Vertical overbite, therefore, should be reduced to a minimum on the setup, unless a compensating overjet is established.

9. As the illustration shows, the screw, which will serve as the central bearing point, can be made up in any machine shop with little trouble. A brass or copper plate strong enough to take up the pressure and cut down to the proper size will serve as a bearing plate. The same appliance can also be used as a gothic arch tracer for establishing centric relation, as described and illustrated by Irving Hardy.³

10. When time is limited, and where the best possible and most efficient service must be given, it is doubly important to balance the occlusion carefully. An hour spent in grinding dentures is by no means lost time. On the contrary, the patient will return less frequently for adjustments. The dentures will not require relining as

soon because resorption will take place more slowly. Most important, the patient is made much more comfortable and is given better and longer-lasting service from his dentures.

DENTAL MEETING

Dates

The Washington State Dental Society, annual meeting, Olympic Hotel, Seattle, January 31-February 2.

The Greater Philadelphia annual meeting, Bellevue Stratford Hotel, Philadelphia, February 5-7.

Chicago Dental Society, midwinter meeting, Hotel Stevens, Chicago, February 11-14.

Dental Society of the State of New York, seventy-eighth annual meeting, Hotel Pennsylvania, New York City, March 13-16.

The Thomas P. Hinman midwinter clinic, thirty-third annual meeting, Atlanta City Auditorium, Atlanta, Georgia, March 24-27.

³Hardy, I. R.: Technique for the Use of Non-Anatomic Acrylic Posterior Teeth, *THE DENTAL DIGEST* 48:562-566 (December) 1942.

The Conservative Treatment of Hypertrophic Gingivitis

LESTER B. OLDER, D.D.S., Union City, New Jersey

A case of extreme hypertrophic gingivitis of long duration, which was treated by conservative methods only, is presented. The treatment consisted of scaling, curettage, and the use of certain medicaments as adjuncts in the treatment. Faithful home care and adherence to proper diet were also necessary for a successful end result.

History

The patient, an accountant, 40 years of age, of normal development, gave a history of having had bleeding, swollen, and painful gingivae, as well as bad breath, for as long as he could remember. This meant, in his opinion, for over twenty years. He complained that it was impossible for him to brush the gingivae at all because even the slightest touch was painful and caused profuse bleeding.

The patient also gave a history of being unstable emotionally, which had given him neurotic tendencies since childhood. The nervous strain under which he labored actually had made him neglect everything necessary to maintain a normal, healthy body, which, naturally, includes the mouth. For the last few years, however, he had been under the care of a competent psychiatrist who had been able to relieve him of his neurotic and emotional disturbances and mold him into a normal person in all respects, except for his neglected mouth. The patient decided, therefore, that it was now time to have his mouth put into a healthy condition.

Examination

Examination of the mouth revealed extreme gingival hypertrophy (Figs. 1 and 2). The gingivae were

so swollen and engorged with blood that they actually hid the gingival third of the teeth. The enamel surfaces of the teeth were coated with soft debris, and calculus was abundant. The interproximal swellings were loose and pliable (Fig. 2) and bled on the slightest touch. The breath had a fetid odor and could be detected at some distance from the patient. The periodontal membrane explorer showed varying degrees of depth of the gingival pockets. There was also present an ill-fitting two-tooth partial denture in the lower anterior region (B in Fig. 5, and Fig. 6) which was definitely irritating the area with which it came in contact.

Roentgenographic Studies—Roentgenographic examination revealed definite bone resorption in almost all areas of the mouth. Some areas showed greater bone loss than others, but none was severe enough to cause looseness of the teeth nor to warrant extraction. Many areas of subgingival calculus, as well as caries, were evident in the roentgenograms. No apical infection was present and all teeth responded normally to the pulp tester.

Laboratory Studies—The Wassermann and Kahn tests were negative, and the urine was normal. Blood studies were as follows: hemoglobin, 100 per cent (Sahli); white blood cells, 9,200; red blood cells, 4,900,000; polymorphonuclear cells, 72 per cent; lymphocytes, 26 per cent; and monocytes, 2 per cent. The platelets and red blood cells appeared normal.

Diagnosis and Etiology

The condition was diagnosed as infected hypertrophic gingivitis of the edematous type. There was an increase in the size of the gingival tis-

sue already present, rather than new growths of fibrous tissue.

If the condition was caused by the patient's emotional disturbances we might compare it to the emotional upsets that are so often the cause of stomach ulcers. Briggs,¹ in discussing the psychogenic factor in dental caries, states: "The chemistry of the saliva can be altered by changes that originate in the central and vegetative nervous systems. This change in chemical balance of the saliva may influence the rate of tooth decay. . . . Is it not probable that emotional upsets may operate in a manner to retard the neutralizing factor of the oral fluids, permitting acid to predominate and to create a caries-susceptible environment?" With these thoughts in mind, it could readily be possible for the gingivae to be affected by changes that occur in the functioning of certain endocrine glands and the vegetative nervous system.

If, on the other hand, the gingival disease was not caused directly by the emotional condition, it most certainly was a by-product of it inasmuch as it caused the patient to neglect completely the condition in particular and oral hygiene in general.

Treatment

1. The treatment in this case was purely conservative. The mouth was divided into "work" areas or sections.^{2,3} Each "work" area included three adjacent teeth, and treatment was instituted in one particular area during a visit. This technique made it possible to concentrate treatment in each respective section.

¹Briggs, E. F.: The Psychogenic Factor in Dental Caries, *The DENTAL DIGEST* 50:115 (March) 1944.

²Older, L. B.: Periodontia: Diagnosis and Treatment, *J.A.D.A.* 32:814 (July) 1945.

³Older, L. B.: Treatment of Gingivitis, *Bull. Hudson County, New Jersey, D. Soc.* 14:8 (December) 1944.

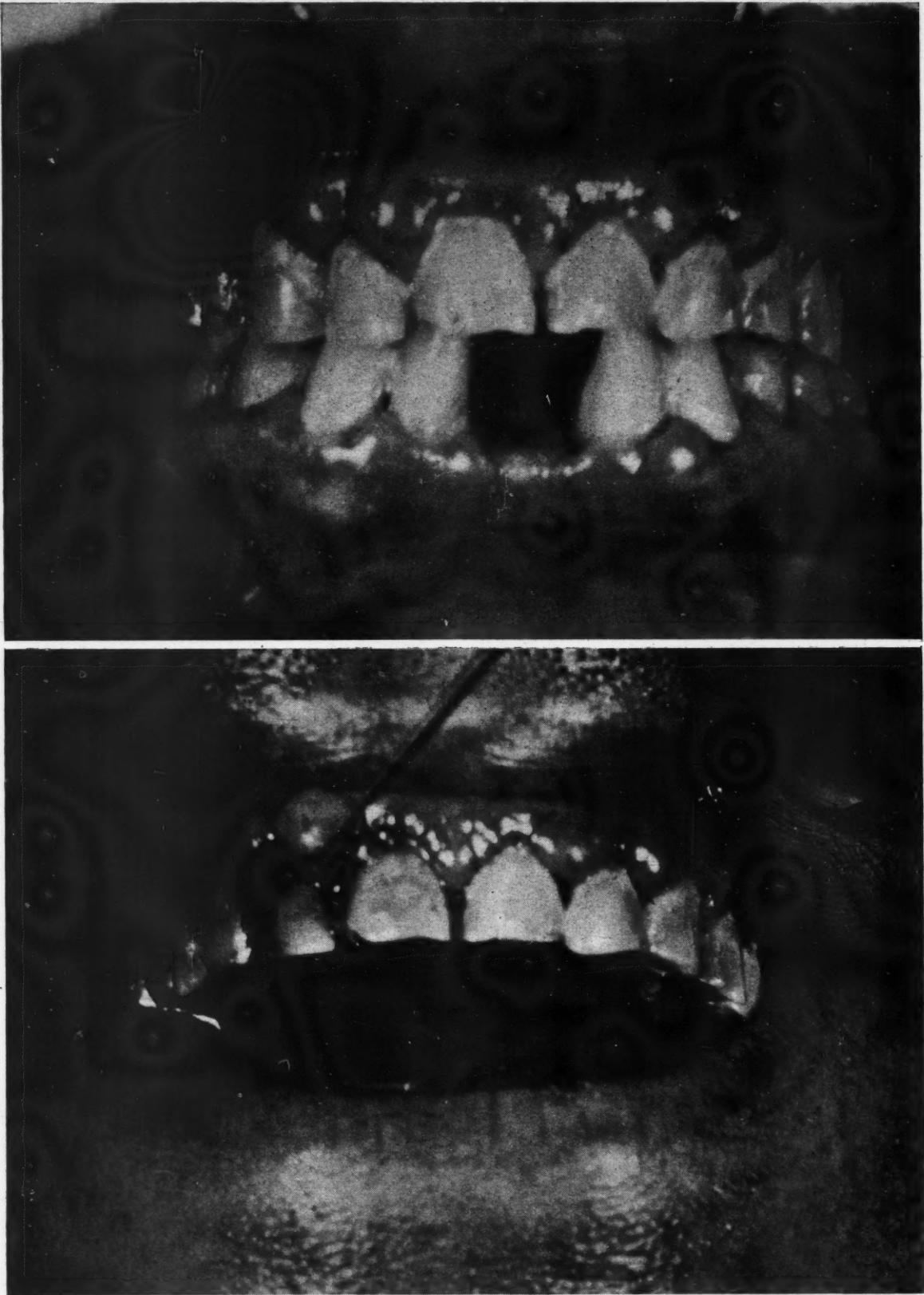


Fig. 1—Condition of mouth on presentation, showing the extreme hypertrophy of the tissues. The uncleanliness of the teeth and calculus deposits can be seen plainly, especially around the gingival surface.

Fig. 2—Note the pliability of the hypertrophied tissue. An explorer is used to lift the tissue for demonstration. Bleeding is quite profuse.

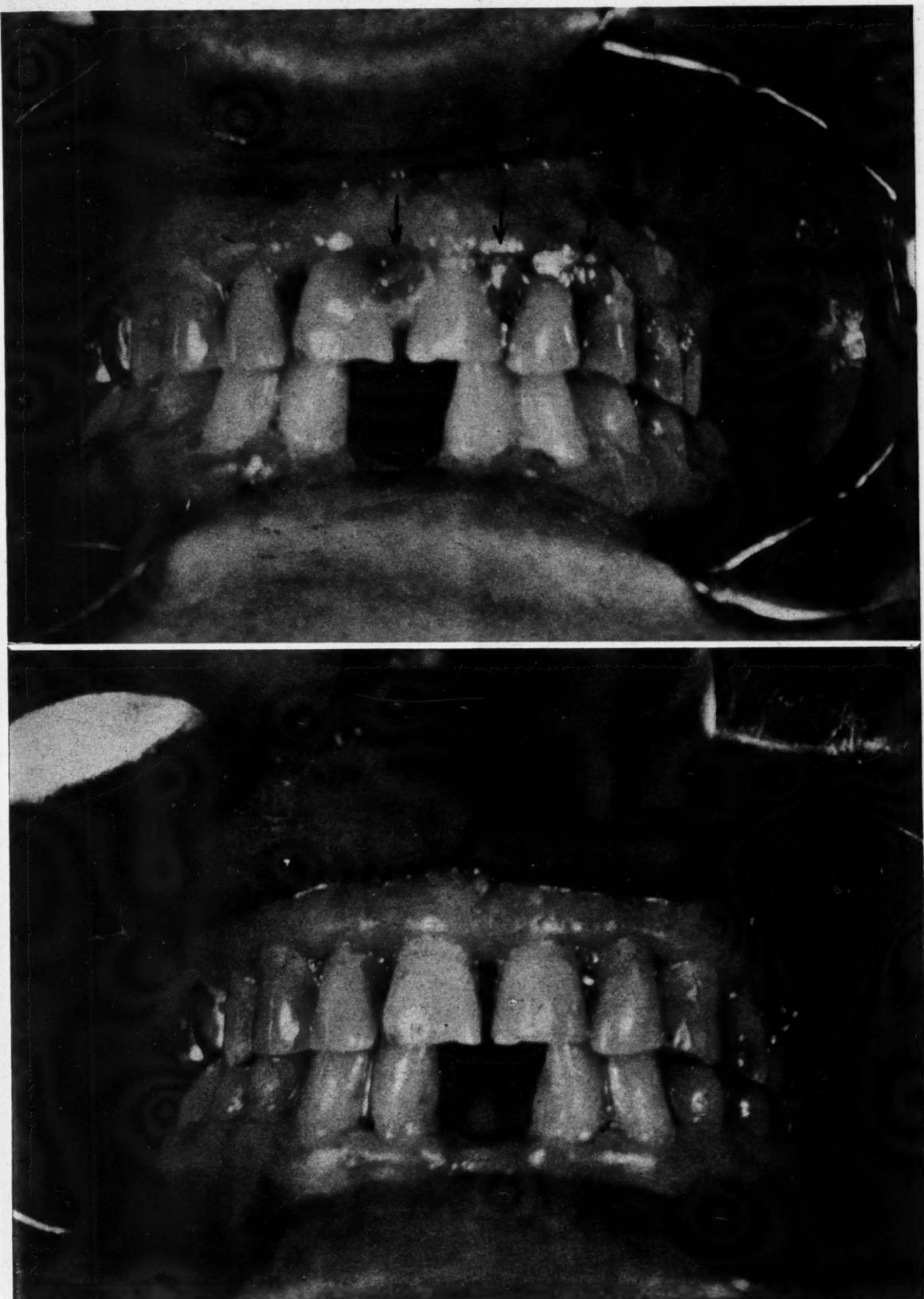


Fig. 3—The arrows point to the method of packing cotton pellets, impregnated with 50 per cent tannic acid in glycerin, into the interproximal spaces.

Fig. 4—Treatment completed: Note the normal contour of the tissue and the cleanliness of the teeth. The gingivae are firm and healthy.

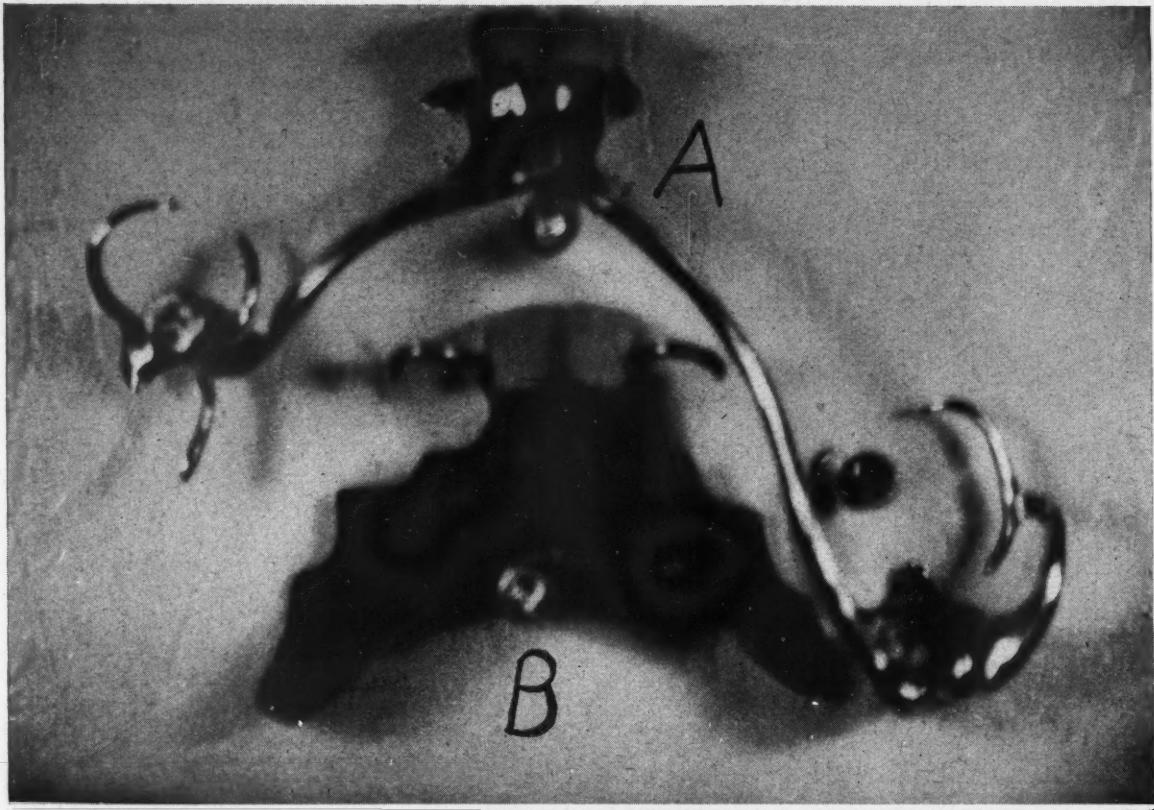


Fig. 5—(A) All-cast metal partial denture eliminating irritating factors which were present in the old denture. (B) Vulcanite partial denture, with two anterior clasps, which had been worn for several years.



Fig. 6—This photograph was taken (after the gingival condition was cured) to show how the old denture (B in Fig. 5) irritated the labial tissue. (Compare with Fig. 7.)



Fig. 7—New partial denture in place: The denture is well balanced and has posterior clasps to prevent any gingival irritation.

2. The area was first painted with a topical anesthetic and then with an antiseptic. The region under treatment was thoroughly scaled and curedtted.

3. All subgingival and supragingival calculus was removed as well as all granulation and infected tissue that was present. (Profuse bleeding at this time is beneficial inasmuch as it relieves the congestion of the swollen tissue and its capillaries.)

4. When all deposits, both gross and fine, were removed, the interproximal tissues were packed with cotton impregnated with 50 per cent tannic acid in glycerin (Fig. 3), and kept that way for ten minutes.⁴ This was used to induce shrinkage.

5. It was also necessary in some areas to use a sodium sulfide solution (McCall) to de-epithelialize the hypertrophied gingivae by packing it into the interproximal tissue for ten minutes.

6. All sections of the mouth were treated in this manner during subsequent visits, and the treatment was repeated in each area until the teeth were free of calculus, the tissue was normal, and the pockets were eradicated.

Home Care

The patient, realizing the necessity for good cooperation, was extremely faithful in his home care. He was instructed in the proper method of toothbrushing and was shown how to stimulate the interproximal tissue with a rubber, cone-shaped interdental stimulator. He stimulated and helped shrink the labial, buccal, and lingual surfaces with a small rubber suction cup on a handle used with a push-pull motion. A salt water mouthwash was used four times daily. A properly balanced diet, which eliminated spicy, sharp, acidic, and nondetergent foods, as well as alcohol and smoking, was advised. Vitamins and minerals were used to supplement the diet.

Prosthesis

The patient had been wearing an ill-fitting, poorly designed vulcanite partial lower denture replacing the centrals (B in Fig. 5, and Fig. 6). This denture was acting as an irritant to the lingual and labial tissues.

An all-cast metal lingual bar was constructed to replace the two missing centrals. This eliminated all the irritation and was designed to be fully balanced and well retained.

Conclusions

The treatment was a time-consuming procedure, for both the patient and the operator, but it definitely eliminated any need for surgical intervention, either by knife or electrical appliance.

This method of treatment conserved tissue and minimized the sensitivity. The teeth are now clean, the tissues are firm and of good color, and the odor has completely disappeared (Figs. 4 and 7).

2115 New York Avenue.

⁴Blass, J. L.: Chemotherapy and Physiotherapy as Adjuncts in Conservative Treatment of Periodontal Disease, J.A.D.A. 30:267 (February) 1943.

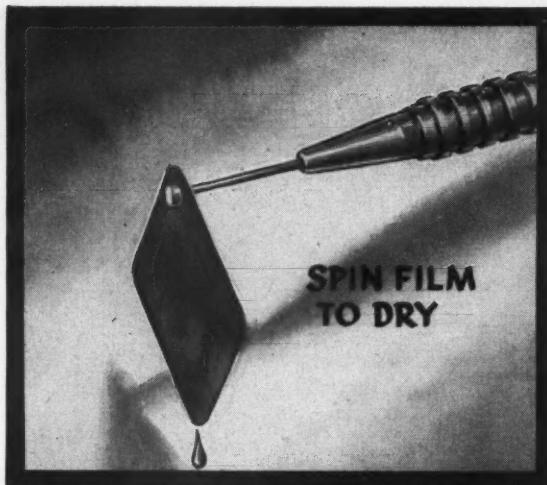


Fig. 1

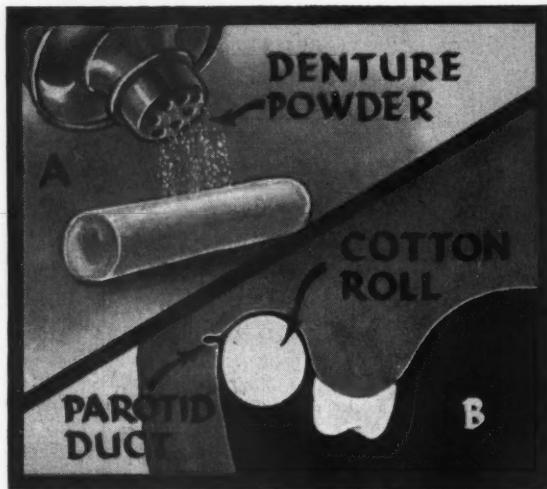


Fig. 2

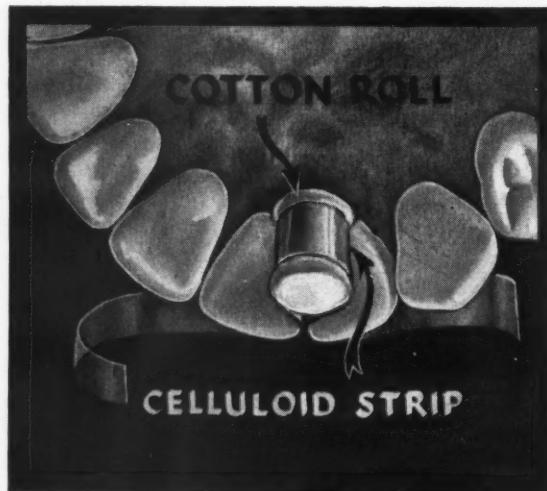


Fig. 3

Clinical and Laboratory

Quick Drying of a Single X-ray Film

Maurice J. Teitelbaum, D.D.S., Newark, New Jersey

Fig. 1—Drill a small hole, or use a rubber dam punch, in the corner of an x-ray film. Mount the wet film on a mandrel and insert the mandrel in the handpiece. Revolve the motor at full speed for thirty seconds, and the film will be dry.

Blocking Excessive Salivary Flow from the Parotid Gland

Joseph Benditt, D.D.S., Philadelphia

Fig. 2—By sprinkling denture powder on a cotton roll and placing the roll at the orifice of the parotid gland, the flow of the saliva may be blocked and prevented from entering the mouth while a dental operation is being carried out.

A Simplified Method of Inserting Silicate in Interproximal Anterior Cavities

Captain Howard B. Johnson (DC) AUS, Kansas City

Fig. 3—Cut a cotton roll to about $\frac{1}{2}$ inch in length, and wrap a celluloid strip around it. This is then placed lingually between the anterior teeth, the cotton roll being pulled firmly against the lingual surfaces by means of the celluloid. The silicate is inserted, and the strip of celluloid is pulled firmly over the restoration. The cotton roll gives proper lingual contour to the restoration. This method may be used in restoring one interproximal cavity or approximating cavities.

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A Metallic Support for an Acrylic or Silicate Restoration

B. C. Godfrey, D.D.S., Rutland, Vermont

Fig. 4—The tooth is prepared for a three-quarter crown, and the wax pattern is made in the usual manner. The labial margin of the pattern is carved back to the flat surface, and the casting is made (A). Using a flat carborundum disc, slots are cut in the interproximal sides of the casting (B), which is then cemented into position. Subsequently, silicate is built over the casting.

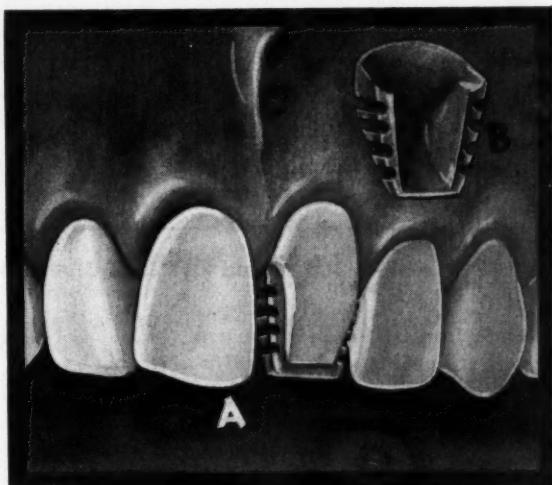


Fig. 4

An Aid in Acrylic Laboratory Procedure

Major Ford W. Stevens (DC) AUS, Fort George G. Meade, Maryland

Fig. 5—A small aluminum dipper with a long handle is used. A hole is punched in the bottom of the dipper. When the dipper is filled with boiling water, a small stream will come out of the hole and can be directed with precision into the mold for complete elimination of the wax pattern and cleaning of the mold.

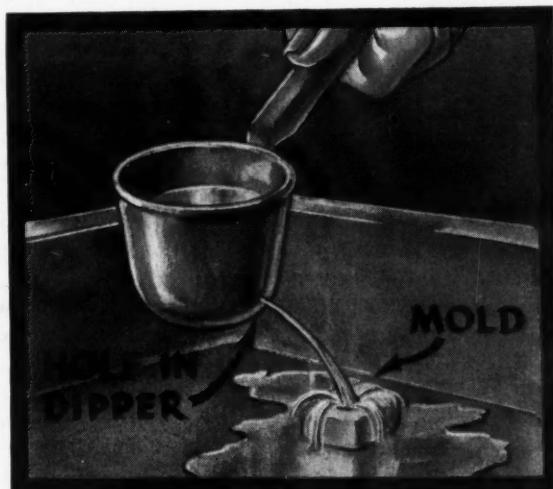


Fig. 5

Relieving a Sore Area Under a Full Denture

Captain Robert R. Goodhart (DC) AUS, Fort Bragg, North Carolina

Fig. 6—The denture is dried. The sore spot in the mouth is touched with 2 per cent gentian violet with an applicator, and the denture is inserted into position. Upon removal of the denture, the area painted with the gentian violet will be recorded on the corresponding area on the denture. Using suitable instruments, the area is relieved. Gentian violet has the added advantage of being an antiseptic.

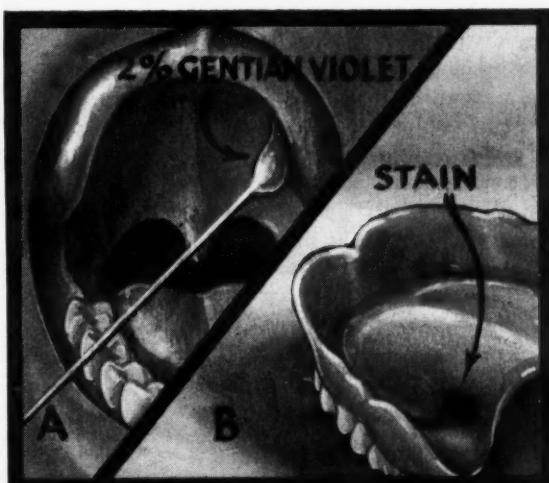


Fig. 6

technique involved; and jot down the advantages of the technique. This shouldn't take ten minutes of your time.

Turn to page 36 for a convenient form to use.

Send your ideas to: Clinical and Laboratory Suggestions Editor, THE DENTAL DIGEST, 708 Church Street, Evanston, Illinois.

An Allantoin-Sulfathiazole Combination in Treating Vincent's Infection

ARCHIE F. LAMBKE, D.D.S., and PHYLLIS GUIDER, M.T., Detroit

A clinical investigation of the use of sulfathiazole, allantoin-sulfathiazole combination, and chromic acid-hydrogen peroxide in the treatment of Vincent's infection in three groups of twenty-five patients each resulted in the following conclusions:

1. A lozenge consisting of $\frac{1}{8}$ grain allantoin, $2\frac{1}{2}$ grains sulfathiazole, and $1/20$ grain benzocaine in an aromatized lozenge was found to be more effective than sulfathiazole, $7\frac{1}{2}$ grains, or 4 per cent chromic acid treatment supplemented with hydrogen peroxide mouthwash.

2. Moreover, this lozenge was convenient to use, and invited the patients' cooperation because of its pleasant taste.

3. The possibility of sulfonamide toxicity also was reduced as a result of the lower sulfathiazole content.

Treatment Procedures

In the treatment of Vincent's infections, a variety of therapeutic agents has been used with more or less disappointing results. Arsenicals and bismuth have been used and have been shown by some investigators^{1,2} to be ineffective in a large percentage of cases. They should not be considered specific therapeutic agents for Vincent's infection as they have been in the past.

The introduction of sulfonamides made available effective agents for prophylaxis and the treatment of infections. The successful treatment of Vincent's infection by the topical ap-

plication of sulfathiazole was reported by Linton³ and Manson and Craig.⁴ It was observed by Hirsch and Spingarn⁵ that moderate doses of sulfathiazole for periods of two to six days were effective in controlling fusospirochetal infections of the mouth and throat.

The topical application of sulfonamides presented a certain disadvantage as observed by Tendler,⁶ and Veal and Klepser,⁷ who found that if the drugs were used in sufficient concentration for more than several days there was a tendency toward unhealthy-looking, gray granulation which healed slowly.

Veal and Klepser likewise found that if allantoin, a terminal oxidation product of purine metabolism discovered in the excretion of maggots,⁸ was combined with sulfonamides, their bacteriostatic action was potentiated and the healing of wounds was facilitated. Tremble⁹ observed that allantoin has a digestive-like action on pus and necrotic tissue (when healing is slow, it stimulates cell proliferation), and that it has a synergistic action with sulfonamide drugs. A report by Saralegui and Villanueva¹⁰ concluded that "allan-

toin and sulfonamide mixtures stimulate phagocytosis, accelerate the elimination of substances which inhibit healing, prevent the harmful effects of sulfonamides, and stimulate cell proliferation and formation of new tissues."

The enthusiastic reports revealing the excellent results obtained with allantoin-sulfonamide combination in surgery,^{7,11,12} dermatology^{13,14} gynecology,^{15,16} and oral surgery,¹⁷ stimulated the author to undertake clinical investigation of sulfathiazole, allantoin-sulfathiazole combination, and chromic acid-hydrogen peroxide in the treatment of Vincent's infection.

Investigation Procedure

Three groups of patients, twenty-five patients in each group, were selected for the study. Every effort was made to have in each group patients with approximately the same degree of infection and the same extent of pathosis.

A complete history was taken from each patient, after which a thorough examination of the mouth was made and a smear, which was prepared immediately for examination for Vincent's organism, was taken from an ulcerated area.

³Linton, C. S.: Treatment of Vincent's Angina of the Tonsils, J.A.M.A. **123**:341 (October) 1943.

⁴Manson, W. W., and Craig, I. I.: Treatment of Vincent's Angina with Sulfathiazole, J.A.M.A. **127**:277 (February) 1943.

⁵Hirsch, F. G., and Spingarn, C. L.: The Treatment of Fusospirochetal Infections of the Mouth and Throat with Sulfathiazole, Mil. Surg. **93**:299 (September) 1943.

⁶Tendler, Morton: Pilonidal Sinus: A Review of Its Literature and a Report of 87 Cases, South. M. J. **34**:1156-1168 (November) 1941.

⁷Veal, J. R., and Klepser, R. G.: The Treatment of Pyogenically Infected Wounds by the Topical Application of Powdered Sulfanilamide and Sulfanilamide-Allantoin Ointment, M. Ann. District of Columbia **10**:61 (February) 1941.

⁸Robinson, W.: Stimulation of Healing in Non-Healing Wounds by Allantoin Occurring in Maggot Secretions and of Wide Biological Distribution, J. Bone and Joint Surg. **17**:267 (April) 1935.

⁹Tremble, G. E.: The Conservative Treatment of Sinusitis in Children, Canad. M. A. J. **49**:496 (December) 1943.

¹⁰Saralegui, A. F., and Villanueva, A. A.: Local Sulfonamide Therapy and Repair of Tissues, Revista de la Assoc. Mid. Argentina, Buenos Aires **58**:547 (July) 1944.

¹¹Marshall, Wallace, and Greenfield, Elena: Modified Non-Adherent Gauze Pressure Treatment for Burns, Am. J. Surg. **63**:324-328 (March) 1944.

¹²Scanlon, L. F., and Gagliardi, J. M.: Chemotherapy in Traumatic Wounds: With Report of a Case of Severe Compound Fracture, M. Rec. **158**:27-30 (January) 1945.

¹³Gordon, P. E., and Bernardin, J. A.: The Use of Allantoin-Sulfanilamide Ointment in Skin Infections, M. Rec. **157**:25-28 (January) 1944.

¹⁴Niedelman, M. L., and Horoschak, S.: Allantoin-Sulfanilamide-Sulfathiazole Ointment in Pustular Dermatoses, Urol. and Cutan. Rev. **48**:172-177 (April) 1944.

¹⁵Parks, John: The Treatment of Infections of the Cervix, Vagina, and Vulva with an Allantoin-Sulfanilamide-Lactose Ointment, M. Ann. District of Columbia **12**:175-177 (May) 1943.

¹⁶Smith, J. G.: Treatment of Non-Specific Infections of the Vaginal Tract (Preliminary Case Reports), West Virginia M. J. **41**:75-77 (March) 1945.

¹⁷Devine, J. C.: The Use of Allantoin and Sulfanilamide Ointment in Extraction Sockets and Oral Surgery, THE DENTAL DIGEST **50**:267-270 (June) 1944.

¹Ludwick, W. E.: Evaluation of Bismuth and Arsenicals in Treatment of Vincent's Angina, U. S. Nav. M. Bull. **42**:584 (March) 1944.
²Farrell, G. W., and McNichols, W. A.: Efficacy of Various Medicaments in Treatment of Vincent's Stomatitis, Report of 794 Cases, J.A.M.A. **108**:630-633 (February 20) 1937.

Sulfathiazole Group—After a definite diagnosis of Vincent's infection had been made, the affected areas on the gingivae and mucosa of the mouth were cleaned gently, then treated with 4 per cent chromic acid. Each patient was given ten sulfathiazole tablets, 7.5 grains each, and directed to take one in the morning after breakfast and one at night before retiring, starting the treatment not earlier than four hours after the chromic acid treatment. The patients were further instructed to hold the tablets over or near the most painful areas in the mouth, and were cautioned not to chew them nor to partake of any fluids at the time of treatment. Brushing the teeth and gingivae in a vigorous manner after each meal was recommended; bleeding thus initiated was to be disregarded.

The patients were requested to return on the sixth day for a checkup. It was observed that most of the milder cases apparently were cured. In the more severe cases, in many instances the number of organisms per smear was reduced considerably, but the ulcerations were not healing as rapidly as expected. In these patients a second treatment with 4 per cent chromic acid was given and an additional supply of ten 7.5-grain sulfathiazole tablets was prescribed. An examination of the mouth at the second visit after commencing the treatment revealed that the majority of the remaining patients were bacteriologically negative, but the group needed supplementary treatment with allantoin 2 per cent ointment to bring about complete healing of all ulcerated areas.

Four patients in this group had a recurrence of the condition in an average of two months after treatment. These were successfully treated with lozenges of allantoin-sulfathiazole-benzocaine.

Allantoin - Sulfathiazole - Benzocaine Group—The lozenges used in the treatment of this group contained $\frac{1}{8}$ grain allantoin, $2\frac{1}{2}$ grains sulfathiazole, and $1/20$ grain benzocaine in an aromatized base.

The diagnosis of Vincent's infection having been established definitely, the affected areas on the gingivae

and mucosa of the mouth were cleaned gently, then treated with 4 per cent chromic acid. Each patient was given ten lozenges of the allantoin-sulfathiazole-benzocaine combination and instructed to take one in the morning after breakfast and one at night before retiring. They were further instructed not to chew the lozenges nor to take any fluids during treatment. The lozenge was to be held in the mouth and allowed to dissolve slowly. Brushing the teeth and gingivae after meals was permitted; resultant bleeding was to be disregarded.

It was observed that the infection was brought under control as readily with this combination despite the use of a considerably smaller amount of sulfathiazole as compared with the sulfathiazole-treated group. This apparently indicates that the allantoin potentiates the bacteriostatic action of the sulfathiazole, and probably stimulates local phagocytosis. It was observed that the ulcerations tended to heal more rapidly and, according to the patients, the fetid odor was controlled readily.

At least 30 per cent more patients in this group were bacteriologically negative on the sixth day of treatment than were in the sulfathiazole group. Four months later there were no recurrences of the condition in any of the patients in this group.

Chromic Acid-Hydrogen Peroxide Group—The preliminary approach to the treatment of the patients in this group was similar to that in the aforementioned two groups. Sulfonamide preparations were not given to patients in this group. After the chromic acid treatment, the patients were instructed to use a one-half strength hydrogen peroxide mouthwash three times daily after brushing the teeth. In the more severe cases, neosphenamine powder on a glycerin-impregnated swab was applied to the affected areas supplementary to the hydrogen peroxide wash.

The patients with milder infections required about three times as long to show the same degree of response as did those in the allantoin-sulfathiazole-benzocaine group, and slightly over twice as long as the sulfathiazole

group. Although powdered neosphenamine with glycerin had been used as supplementary treatment in the more severe cases, they required an average of four weeks to be pronounced cured.

Summary

A clinical evaluation was made of the following therapeutic agents in the treatment of Vincent's mouth infection in seventy-five cases: sulfathiazole, 7.5 grains; lozenges containing $\frac{1}{8}$ grain allantoin, $2\frac{1}{2}$ grains sulfathiazole, and $1/20$ grain benzocaine in an aromatized base; and 4 per cent chromic acid treatment supplemented with diluted hydrogen peroxide as a mouthwash.

1. The patients were divided into three groups of twenty-five each. Every effort was made to have patients with approximately the same degree of infection and the same extent of pathosis in each group.

2. A complete history was obtained, thorough examinations of the mouths were made, and bacteriologic aids to establish the etiologic factors were conducted, in each case.

3. It was observed that the allantoin-sulfathiazole-benzocaine lozenge was as effective as the 7.5-grain sulfathiazole tablet, although the former lozenge contained considerably less sulfathiazole. The lozenge was about 30 per cent more effective than the sulfathiazole in the milder cases, and the healing of the ulcerated areas was accelerated.

4. The sulfathiazole treatment was about twice as effective as the 4 per cent chromic acid treatment supplemented with diluted hydrogen-peroxide mouthwash, and the allantoin-sulfathiazole-benzocaine combination was approximately three times as effective.

5. It is possible that the increased efficiency of the combination treatment was due to the synergistic action of the allantoin and sulfathiazole. It appeared that the allantoin apparently potentiated the bacteriostatic action of the sulfathiazole and in all probability stimulated healthy granulations.

15400 Plymouth Road.

Effects of Sulfathiazole Containing Agents With and Without Allantoin

WALLACE MARSHALL, M.D.

Reports in the Literature

1. It has been reported that though sulfonamides will in many cases eradicate infection, they apparently interfere with wound healings. The problem presented was to increase the effectiveness of the sulfonamides, and eliminate the healing inhibitory actions. Veal and Klepser used a combination of allantoin and sulfonamide in a nongreasy ointment base with resultant greatly increased vascularity and healing.

2. Greenfield and I observed the therapeutic response of burns to various ointments with and without allantoin combined with sulfonamides, and concluded that the powerful epithelializing agent was allantoin. We further observed that the compression of these wounds caused by burns prevented formation of keloids.

3. Tenenberg, Tsuchiya, and associates, reported that a mixture of urea and sulfathiazole affected sulfonamide-resistant staphylococci, although both agents used separately failed to exert antimicrobial activity. They further demonstrated that this combination possessed bacteriostatic action even in the presence of para-amino-benzoic acid, the inhibitor of sulfonamides.

4. Holder and MacKay reported the results obtained in wound therapy with urea-sulfonamide mixtures, and stressed the removal by urea of gross sulfonamide inhibitors, or the source of such inhibitors in the form of necrotic tissue, pus, and tissue exudates. They claim the principle of urea action is that of a strong peptonizing and lytic agent for devitalized tissues.

5. According to Olson, Slider, and associates, urea retarded the rate of epithelialization of open skin wounds of rabbits, but it did stimulate the rate and extent of formation of granulation tissue. Niedelman and Horoschak reported, however, that allan-

toin-sulfonamide combination appeared to stimulate and hasten marginal epithelialization.

6. Probably the first report on the cell-proliferating action of allantoin was Macalister, who used crude extracts of comfrey roots in the treatment of indolent ulcers.

7. Robinson, investigating the reasons for the exceptional results obtained in maggot therapy, found that the active principle was allantoin.

8. Kaplan stated that allantoin induces healing by stimulating healthy granulations and removing necrotic material.

9. Saralegui and Villanueva concluded that the allantoin-sulfonamide mixture stimulates phagocytosis, accelerates the elimination of substances which inhibit healing, prevents the harmful effect of sulfanilamide, and stimulates cell proliferation and the formation of new tissue.

10. Parks observed that areas of fulgurated vaginal and vulval mucosa healed much more rapidly and that the redness and discharge from post-cauterized wounds of the cervix were reduced and healing seemed to be more rapid by the application of a greaseless cream containing allantoin 2 per cent, sulfanilamide 15 per cent, and lactose 5 per cent, buffered to a pH of 4.5, than had been the case with other forms of therapy.

Allantoin is found in the allantois, one of the membranes which envelops the fetus; is also a product of purine metabolism; and is found in the normal urine, but especially in the urine of pregnant women. Because the mucosal structures of the trachea and cervix are somewhat similar, it was decided to test the efficacy of an allantoin-sulfathiazole combination on the upper respiratory tissue.

Method of Study—1. To test the therapeutic value of the combination as compared to a plain sulfathiazole preparation, patients with upper re-

spiratory infections were obtained for clinical observations and divided into three groups. These groups were not varied until the observations were completed.

2. The patients in group A were placed on a phenacetin, aspirin, caffeine type of medication. Those in group B were given plain sulfathiazole; and the patients in group C received lozenges of allantoin $\frac{1}{8}$ grain, sulfathiazole $2\frac{1}{2}$ grains, and benzocaine $1/20$ grain, with aromatic and sweetening agents.

3. Group A received no sulfathiazole, group B received $7\frac{1}{2}$ grains sulfathiazole at four intervals, and group C received three allantoin-sulfathiazole lozenges within every four hours.

Results—1. The allantoin-sulfathiazole combination was more effective therapeutically than the other two types of medication in that group C showed the least hours of illness.

2. No exact control could be obtained as to whether or not the various patients of all groups took their medications according to directions, and it was necessary to rely solely on their reports.

3. The patients in group C appeared to be more comfortable than those in the other groups. The standing order was "bed rest," but whether or not this order was followed cannot be recorded.

4. Whether or not the rapid relief reported by many patients of group C after taking the lozenges was psychologic or physiologic cannot be stated.

5. The observations demonstrated that sulfathiazole did not abort the common cold. The patients on sulfathiazole alone (group B) were ill about the same length of time as the patients (group A) who were treated without sulfathiazole.

6. The patients in group C had the benefit of allantoin and benzocaine

(Continued on page 46)

The Editors' Page

HEART DISEASE is of high incidence. It is frequently necessary for the dentist to make a determination and to evaluate the risk in the treatment of cardiac patients. There are unquestionable hazards in dental treatment. According to Wright Adams, M.D., of the University of Chicago Clinics, these hazards include the dangers from (1) anesthetics, (2) hemorrhage, (3) shock, and (4) infection.

Anesthetics

In all general anesthetics, anoxia must be avoided. There is grave danger in giving straight nitrous oxide to the cardiac patient. In local anesthesia there are two types of reaction—procaine and adrenalin. The procaine reaction represents an idiosyncrasy to this drug. Doctor Adams believes that the dangers from the adrenalin reaction are greatly overemphasized.

Hemorrhage

Anything more than mild bleeding following tooth extraction for a cardiac patient requires blood replacement therapy.

Shock

The exact mechanism of shock is unknown. The condition represents a disproportion between the circulating blood volume and the volume of the blood in the vascular bed. It is likely a phenomenon that represents a labile vasomotor system with abnormal vasodilation and the pooling and stagnation of blood in certain areas. In shock the cardiac output and the blood pressure are reduced. Because of the slowing of the circulation during shock, thrombosis may occur.

To prevent shock it is necessary to relieve apprehension. The attitude of the patient to the procedure is often more important than the physical trauma that attends the operation. In other words, the psychogenic basis of shock must be considered. In cardiac patients, the inculcation of fear and the infliction of pain are not only unpleasant but dangerous.

Infection

The cellulitides following tooth extraction are as

unpredictable as is hemorrhage. The dangers of bacterial endocarditis following tooth removal are grave. According to Doctor Adams, 50 per cent of the cases seen clinically have had their origin in tooth extraction. All people with known congenital or valvular heart lesions should, therefore, receive adequate chemotherapy in advance of extraction. Careful treatment planning for cardiac patients is advised. Where there is reasonable optimism for prolongation of life, adequate dental treatment should be planned. Every case should be considered on its merits, and adequate treatment should be balanced against the possible risk involved. Good dental treatment may, in fact, improve the cardiac patient's outlook. Many cases of improvement of a heart condition have been noticed by Doctor Adams. He is emphatic in pointing out that such improvement is not necessarily explainable on the basis of removing foci of infection.

Easy sessions of dental treatment should be planned for the cardiac patient to allow him to build up his tolerance. The use of premedication and sedation is important. People who have a lowered cardiac reserve or anginal symptoms might be better treated for severe dental conditions in hospitals where the facilities for emergency treatment are available. People with masked types of heart disease, and the people who neglect to tell their dentists and physicians of their condition, present a clinical hazard. A brief inquiry will disclose the large majority of cardiacs. The dentist should be interested, although his interest does not mean that he is accepting the responsibility of diagnosis of heart disease.

People with cardiac disease are likely to die unexpectedly at any time or any place. The deaths of the few cardiacs in the dental chair cannot be ascribed directly to the trauma of the dental experience. It is likely to be a coincident. Many cardiacs are deprived of adequate dental treatment because physicians and dentists are fearful to treat these patients. Although unexpected and sudden deaths are common among sufferers of heart disease, it also is well known that many of them live a long life. They all are entitled to good dental care.

Case Report of Trifacial Pain Caused by a Dentigerous Cyst

WILLIAM W. MARVEL, D.D.S., Fall River, Massachusetts

MR. P. K., aged 33, presented at the hospital with severe trifacial pain. The right side of the face was extremely swollen. He gave a history of ten years of intermittent pain, resulting in the loss of all the posterior maxillary teeth. At no time had roentgenograms been taken inasmuch as the patient lived in a rural community where such examination was not available. Teeth had last been extracted about a year previous to December 12, 1944, when the pain returned, much increased.

Roentgenographic examination of the right mandible and right maxilla (see illustration) on January 26 revealed that all the posterior teeth had been removed. There was a shadow of great density in the upper right maxilla. This measured about 1.2 centimeters in diameter and had small, irregular spicules on its borders. It was surrounded by a clear zone of diminished bone density about 2 millimeters in width, the distal area being about 1.5 centimeters in diameter. The shadow lay entirely within the superior maxilla and did



not protrude into the antrum. The findings were consistent with those of a dentigerous cyst.

The anomalous mass was removed, together with a part of the external

malar plate, and the cyst was opened and curetted. Removal of the growth resulted in complete relief from the trifacial pain.

39 Highland Avenue.

Case Report of Desquamative Stomatitis of Unknown Etiology

CAPTAIN W. F. WALFORD (CDC), Pointe Claire, Quebec

THIS CASE is of interest because of its rarity and because of the extent of secondary infection which obscures the true condition and makes a correct diagnosis more difficult. In many ways also it is similar to vitamin deficiency and may readily be confused with a riboflavin deficiency.

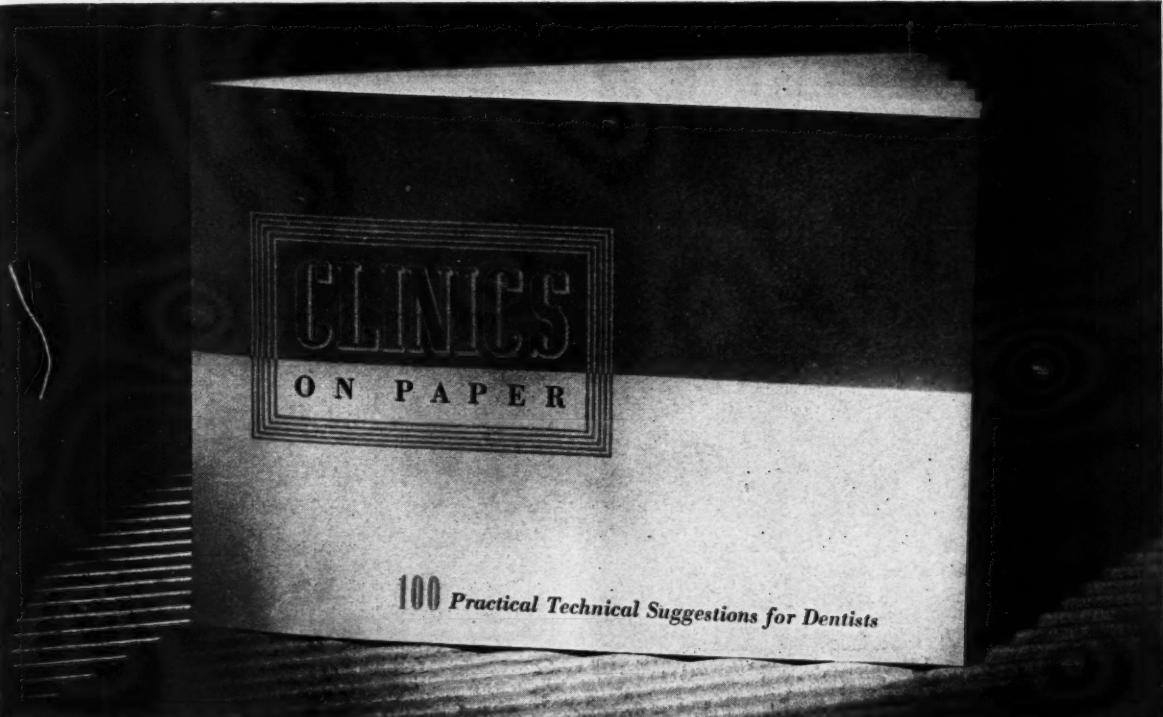
History

On admission to the hospital, the patient, a white man aged 21, gave a

history of "chronic ulcerative stomatitis for the past one and one-half years." The condition first occurred three years ago when he had several cankers that cleared up readily. He reported that his dietary habits changed somewhat after entering the service (about two years ago) in that he ate fewer vegetables and less meat. He had taken 2 to 3 teaspoons of cod liver oil for the past one and one-half years. Prior to hospitalization he had

had all manner of treatment both in and out of service. These treatments included topical application of silver nitrate, gentian violet, and chromic acid; mouth rinses of sodium perborate, hydrogen peroxide, and Canadian Dental Corps mouthwash. One treatment given was swishing cod liver oil in the mouth, which provided the topical application of vitamins and gave him comfort, pos-

(Continued on page 34)



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(Continued from page 32)
sibly due to the coating of the ulcerated surfaces by a film of oil.

Examination

Mouth—1. Unclean odor, few carious teeth, and some tartar (slight).

2. Gingivae soft and reddish around the dental margins.

3. Multiple irregularly shaped ulcerative lesions (some clean, some with whitish crests, some on reactive bases, others pale) on the buccal mucosa, in the labial grooves, and on the gingivae.

4. The lips were dry with some cracking.

Laboratory Studies—1. Red blood count, 5,340,000, and white blood count, 5,900; 59 per cent neutrophils, 3 per cent eosinophils, and 3 per cent monocytes. Sedimentation rate, 18 millimeters; hemoglobin, 98 per cent.

2. Urinalysis showed rare pus and epithelial cells.

3. Gastric analysis was negative.

4. Smears showed varied organisms, no fungi, and only the usual mouth flora. No fungi were grown.

5. There was no urinary focus of infection.

6. Roentgenologic examination showed no evidence of parenchymal disease.

Nutrition Studies—A riboflavin deficiency was present from observation of the buccal mucosa, the cheilosis, and the marginal atrophy of the tongue, but it was reported that there was no corneal invasion nor was there seborrheic dermatitis of the face to substantiate this diagnosis. A dietary supplement of 15 milligrams of riboflavin was given.

Hospital Treatment

The diagnosis was ulcerative stomatitis of unknown etiology, and we recommended a high vitamin diet and Canadian Dental Corps mouthwash three times a day. The following is the formula of the mouthwash, labelled poison:

100 cc. Fowler's solution

670 cc. 3% H_2O_2

10 cc. 10% Na_2HPO_4

15 cc. 10% $CaCl_2$

15 cc. 10% $MgCl_2$



Gentlemen:

We have been condensing our files, and in doing so discovered many Eastman dental films of 20 years and more which were still in perfect readable condition.

Thought you might want to pass this fact on to the profession as evidence of the quality and dependability of Eastman products.

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Form to be Used by Contributors

To: Clinical and Laboratory Suggestions Editor
THE DENTAL DIGEST
708 Church Street
Evanston, Illinois

From: _____

Subject: _____

Explanation of Procedure:

Sketch:

\$10 will be paid to author on publication of accepted suggestion.

A week following admission, dental examination revealed many small ulcerated areas on the buccal mucosa, and slight marginal gingivitis in areas of neglected oral hygiene. There was no appreciable mouth odor. The tissue appeared glazed and was elevated readily with air from a chip blower. Gentle rubbing readily produced desquamation of the surface. The impression was that of desquamative stomatitis with secondary infection of the gingivae.

To check on this diagnosis, one side of the mouth was scaled and the other left as it was to serve as a control. The following morning the gingivae on the side which had been scaled had cleared up entirely, thus confirming the tentative diagnosis of secondary infection by mixed mouth organisms. This had been largely the symbiosis of Vincent's on admission but under the mouthwash and penicillin therapy the anaerobes had largely disappeared. There was no alveolar bone loss which is characteristic of chronic Vincent's angina so we may infer that the secondary infection was by mixed oral flora. The pathologic report of biopsy specimens of the buccal mucosa and gingival tissue was nonspecific desquamative gingivitis.

There was complete remission for a period of three weeks but a few small desquamated areas have reappeared. Tests for the presence of a contact allergy showed negative results. The possibility of an ingestion allergy being contributory is being investigated.

Inasmuch as the etiology is unknown, treatment at present is symptomatic. Penicillin therapy (pastilles held in the mouth between meals) has proved of great benefit in reducing infection of the ulcerated areas. Some form of lip salve to reduce discomfort due to cracking of the lips, and a soft diet to reduce tissue abrasion, are advised until all active lesions are healed. Scrupulous attention to oral hygiene is necessary to reduce plaque formation and the local bacteria count.

—From *The Journal of the Canadian Dental Association* 11:492 (November) 1945.

Contra- Angles



The Old School Tie . . .

GLADLY I returned to my Alma Mater in the role of a participant in the celebration of Dad's Day, but now that I am in the slumped years, I find it hard to adjust to the tempo of the fraternity and sorority songs and the old school cheers. I can't remember the songs and the antics; the hand-springs and cartwheels of the cheerleaders make my muscles ache vicariously. Boredom seems to come early in middle life. Benches in the beer stubs seem harder than they used to. The tobacco smoke seems thicker. If I want to be scientific, I must explain these phenomena as loss of tissue tone in the aging buttocks and hypersensitized nasal membranes. These are explanations that might sound biologically plausible, but the fact is the change more likely is in the mental centers that no longer respond to the gay crowd spirit.

It is a temptation to watch the fun of college *men* and *women* (*men* and *women* in italics, please) with the jaundiced eye of middle life, and to think of yourself and your contemporaries as the paragons of all good things of sobriety and propriety. The temptation is strong to preach a little on the old days and the old ways. But this is sure: Young people want none of that, even if the ancient facts were straight—and this they are not likely to be. Thinking in retrospect and with a dash of nostalgic memories is not helpful to accuracy. The result is to gloss over the unpleasant and overpaint the pleasant. Young people sense that, and they know that age does tricks to their parents' memories and that the old days really weren't much better than the present—maybe they weren't as good. Young people are properly intolerant of anecdotal

In your ORAL HYGIENE this month



Let's Make the Public Want Dentistry

"If there's another let-down in dental practice with many dentists sitting around doing nothing while millions of people who are in need of dental care spend all their money on cars, furniture, and luxuries, we'll have only ourselves to blame."

Lieutenant Albert H. Grob (DC) USNR, and his fellow dental officers, have some practice-building plans they are going to try out as soon as they return to civilian life. Many dentists will find ideas they, too, can use, in the article on page 34.

★ ★ ★

"No Room for Veterans" . . . Dentists now returning from Service, are having a great deal of difficulty in finding office space in the towns and cities in which they formerly practiced. Government agencies have taken over some of the buildings; civilian dentists have enlarged their office space; some former office buildings have been converted into living quarters in congested districts. Dental societies and individual dentists are urged to help these veterans find at least temporary locations.

★ ★ ★

"Does Dentistry Wear Long Pants?" . . . Doctor Charles L. Hatcher thinks not . . . and suggests

that it's about time to start. His is an interesting viewpoint that may well start roundtable discussions. You will find the article on page 42.

★ ★ ★

"Who Wants Unions in Dentistry?" . . . Doctor Douglas W. Stephens says: "The dental laboratories have been going through a period of prosperity . . . have been making money . . . The big unions that have seen this want their cut, and they plan to have it . . . The day may come when the dental technicians' union will demand that we ourselves join the union if we perform any laboratory duties." You will want to read the entire article. It's short and to the point (page 50).

★ ★ ★

Doctor Franklin A. Tyler tells returning Service dentists: "You may be back from Service, but you are beginning another 'hitch.'" In the article on page 54, he tells his experiences in returning to civilian practice.

★ ★ ★

Then there are all of your favorite departments, and a new feature just starting this month—two pages of pictures, under the title "Portraits and Profiles of American Dentists."

parents who spin the full yarns of an unverifiable past when youth is so anxious to tell its tales of the present and the future.

A word of advice to any father visiting his child in college: Act your age! Even if the degenerative changes of middle life have not encumbered you too much, don't try to be the life of the party. Be yourself! If you are a teetotaler at home, remain one when visiting college—but with a smile, if you can. If you like to hang one on occasionally, there is no better time to do it than with your own child. But do not carry your virtues on your waving sleeve, nor your dissipations to the point of saturation. Young people are essentially moderate; they expect the same from their elders. They also expect to be treated as people, not as the little girl who now wears high heels nor the little boy who now must shave everyday. The final piece of advice is this: If you want to make a hit, grab all the checks, pay the bills without display, and keep your mouth closed most of the time.

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Grading Dental Speakers . . .

Teachers are given to grading their students. It is time that students gave the teachers marks. If this practice were engaged in widely, a great many teachers would fail in competition. Recently the Chicago Dental Society, in cooperation with the University of Chicago, presented a series of eight lectures, THE DENTIST AND THE SOCIAL ORDER. After each one of the lectures, the audience was asked to grade the speakers on the following points:

Interest: Very interesting
Moderately interesting
Uninteresting

Clarity: Very clear
Moderately clear
Obscure

Relevance: Markedly relevant
Somewhat relevant
Not relevant

This would be a good practice for all dental societies. After a speaker is finished, the audience should be given a chance to attach the label of de-

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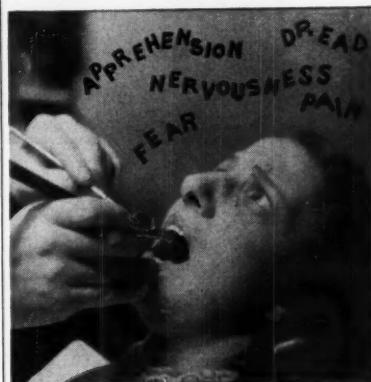
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gree of effectiveness. It also would be well if some central agency, preferably the American Dental Association, had a Speakers' Bureau to which program chairmen could turn when they are looking for talent. This Speakers' Bureau would classify dental essayists in terms of their efficiency, the type of illustrated material they use, and the degree with which they keep their stories up to date. If we had such a bureau, there would be fewer of the boys reaching into their

trunks for the old speeches they gave in 1935 and never got around to revising. We also would have fewer essayists who insist on presenting subjects at the sophomore level of presentation. Many dental speakers seem to forget that their audience is made up of graduate dentists. To tell such an audience that you have to heat modeling compound, that you have to induce anesthesia before extracting a tooth, that you have to adjust an irritating area in a denture, are ex-



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amples of belaboring the obvious and questioning the intelligence of the audience.

Long-Set in Plaster . . .

The story is told about the absent-minded dentist who, in the days of plaster impressions, left a patient sitting with his mouth full of hard plaster while he went out to lunch. The absent-minded dentist was gone an hour or so when he suddenly remembered the chap with his dental tissues entombed, still sitting patiently, so he hoped, in his dental chair. He ran back to his office. There was the patient, drooling over the floor, but still patiently waiting for the dentist. The

dentist couldn't admit that he was so absent-minded that he forgot the chap with the plaster in his mouth. With quick thought he stepped up to the chair, tapped the plaster with an instrument, and said: "That'll be hard enough to remove in about five minutes!"

Appleton and Saliva . . .

I remember a boy, in my childhood, who was troubled with boils on his neck. He tried the remedies of the time — poultices, plasters, and such things — but the boils seemed to recur. Finally an old neighbor woman, of French ancestry, I believe, suggested that the chap lick his fingers

and apply the spittle to the boils on his neck. I remember this lad sitting in school, slobbering on his fingers, and then massaging the boils. Although it seemed disgusting and degrading and offensive to all ideas of cleanliness, the boy was over his siege of boils soon after he instituted this treatment.

We have had the idea pretty strongly in mind that saliva is some sort of contaminant rather than a therapeutic agent. Now, no less a bacteriologist than the Dean of the University of Pennsylvania School of Dentistry, Doctor J. L. T. Appleton, tells us that the saliva possesses anti-infectious properties.¹ Here is what he says:

"Saliva has a number of properties, any one of which might make it a little more difficult for a pathogen to establish an infection: bacteriostatic, bactericidal, agglutinative, transformative or mutative (from a virulent to a nonvirulent type), accelerating blood coagulation, attracting leukocytes, increasing capillary permeability and 'mouse-protective.' The possibility is pointed out that these properties may influence (a) the occurrence, severity, and progress of infections of oral, pharyngeal, nasal, and respiratory mucosae, and salivary glands and ducts, (b) the bacterial flora of the stomach and intestine, and (c) the epidemiology and communicability of air-borne infections."

It has taken me over thirty years to see that the lad rubbing spittle on the boils on the back of his neck was really practicing scientific medicine. Knowledge takes a long time and is a hard job coming to many of us!

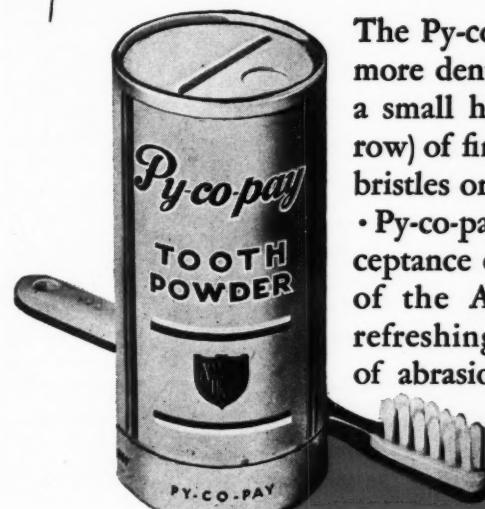
The British Press . . .

Now that Lend-Lease is over and the British are trying to promote a big loan here in the United States, we may expect the British journalists to be making all sorts of comments about us. At this stage most of them probably will be good, because whenever someone is trying to make a touch, he is not likely to be disparaging to the lender. It is good to see the British press saying nice things about

¹Appleton, J. L. T.: Anti-Infectious Properties of Saliva, Am. J. Orthodont. & Oral Surg. 31:659-666 (November) 1945.



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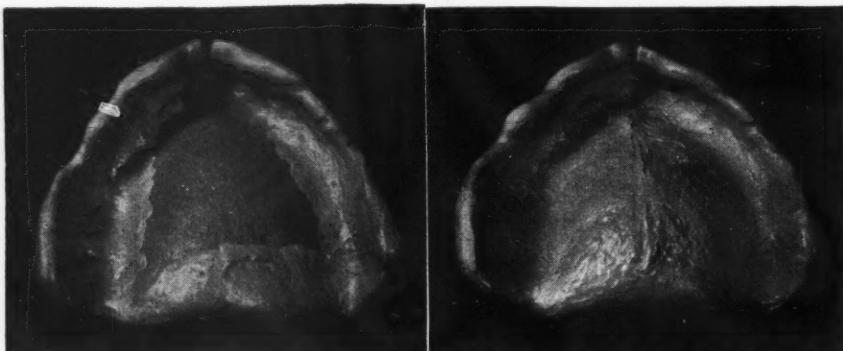
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American dentistry. Here is a recent item from the *London Daily Express*:

"Visit to the dentist left me convinced that the drill was more nerve-racking than ever. I was right; it is louder, but not funnier. Apparently many dentists are now down to using British drills, and the best drills (dentists call them burs) in prewar days were American. None has been imported since Lease-Lend stopped. Next best were made in Düsseldorf,

which won't be exporting burs for some time yet.

"American burs excelled in tempering of steel, while the cutting point was refined by special electrical process. Burs cost from 9d. to four-and-six apiece, and, ideally, a new bur is used for each new patient.

"There is one Ambassador who flies home from the Continent when he wants a haircut. It won't be long before priority travellers will be get-

ting passage to the States for a dentist's appointment."

Sticking to the subject of British journalism, there is an encouraging item in the November 16th issue of *The British Dental Journal*.² The announcement is made that the dentists of Western Canada, in recognition of the outstanding service of M. H. Garvin of Winnipeg, have founded a scholarship in Doctor Garvin's name at the Dental School at the University of Alberta. Harry Garvin, who has been the editor of the *Journal of the Canadian Dental Association* since its founding, is favorably known to the dental profession in the United States.

It is encouraging to see that in a man's lifetime his good deeds are so well appreciated by his colleagues that they have established a dental scholarship in his name. There are really only a few scholarships in dental colleges. It is too bad that there are not more. With the shortage in dentists and the difficulty in encouraging young men to enter dentistry, it is about time that we eulogized our dead dental colleagues by establishing scholarships in their names, and it is a good time to pay tribute to the living by the same kind of action.—E.J.R.

Effects of Sulfathiazole Containing Agents With and Without Allantoin

(Continued from page 30)

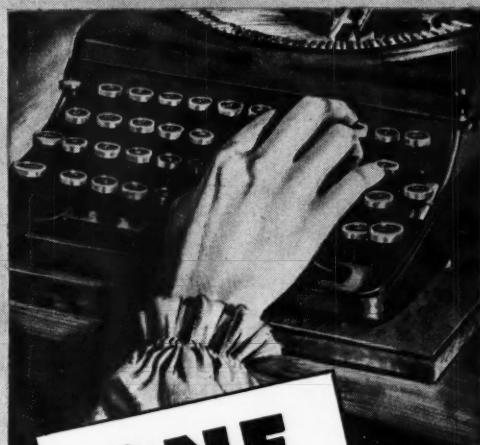
with the sulfathiazole. The fact that they were ill about two-thirds of the time of the patients in the other two groups is rather significant. The only answer to this observation may be the healing effect of allantoin on the mucous membranes which line the respiratory tract.

Conclusions—A combination of allantoin - sulfathiazole - benzocaine in lozenge form is apparently more effective therapeutically in upper respiratory infections than plain sulfathiazole or a combination of phenacetin-aspirin and caffeine.

The superior results obtained with the lozenges of allantoin-sulfathiazole-benzocaine were apparently due to the presence of allantoin.

—From *The Medical World*.

²Notes, Brit. D. J. 79:289 (November 16) 1945.



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IS GOOD



TWO
IS BETTER

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Massage is good . . . Massage plus IPANA is better!

Massage alone is of limited value in improving gingival circulation because gum capillaries are relatively resistant, within physiological limits, to mechanical stimulation.

However, when massage is combined with *CHEMICAL* stimulation, the local blood supply quickly increases.

IPANA plus massage provides the necessary *mechanical and chemical stimulation* to improve the blood supply sufficiently, and over an adequate period of time, to augment local tissue defense. Bear this in mind the next time a patient asks your advice in choosing a dentifrice. Recommend IPANA!

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NUMBER 1

for the treatment of

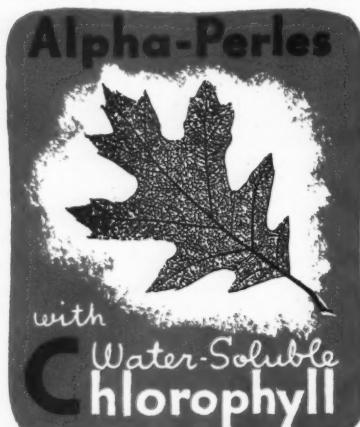
NOVOCAIN DERMATITIS

which is a difficult condition to overcome. It takes time to produce it and time to alleviate it, due to systemic accumulation. Directions must be conscientiously followed. 1½ oz. jar \$1.50.

Developed by Dr. Ernest Fowler (oral surgeon) after five years of clinical experimenting with professional assistance.

Fowler's Compounds will sell at your drug store within a few months. Until sufficient quantities are available to permit National distribution, the following offer is made: 1 jar of No. 1 and 2 jars of No. 2 will be mailed postpaid and tax paid for \$2.00. This is a special introductory price. Mail your order now on letterhead or enclose card.

ERNEST FOWLER, D.M.D., 2031 Shenandoah, Los Angeles 34, California.



ALPHA PERLES, containing Chlorophyllin compound—one of the most discussed subjects of the day, is highly recommended as a supplementary diet. Clinical reports from hundreds of cases in which dentists prescribed Alpha Perles, show marked improvements in a high percentage in general health, arrested caries, sensitivity of teeth and condition of gums. Simple to take, readily assimilable in this water soluble form, Alpha Perles are indicated in cases of excessive and recurrent decay, decalcification, gingivitis, general debility, pregnancy, hypersensitivity and nutritional deficiency. Available in cartons of 60 and 180 perles. Write for complete information.

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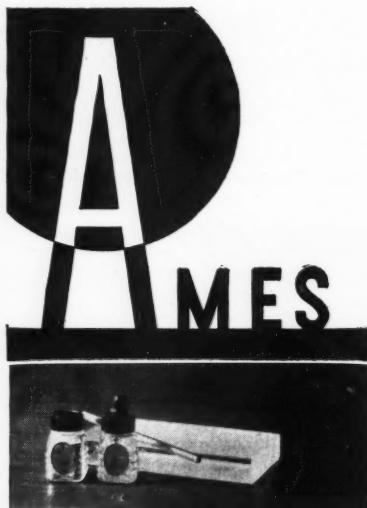
NUMBER 2

for the treatment of

ROUGH AND DRY HANDS

and to be used in conjunction with formula No. 1, by those afflicted with dermatitis. This formula is a delicately scented emollient which also makes a splendid over-night cream. 1½ oz. jar 50c.

Developed by Dr. Ernest Fowler (oral surgeon) after five years of clinical experimenting with professional assistance.



Again it is well to be reminded that no amount of skill can make any cementation better than the qualities inherent in the powder and liquid used. Discriminating dentists employ Ames Cement because they can depend upon its quality year after year. W. V-B Ames Company, Fremont, Ohio.

CEMENT

The Influence of Habit Patterns on Prevention and Control in Pedodontics

GEORGE W. TEUSCHER, D.D.S., Chicago

THE DENTIST is faced with three general problems peculiar to pedodontics when he operates for children: The first deals with problems of child behavior; the second concerns itself with the education of the child and the parents; and the third involves the many technical problems of adequate child care.

Preventable Conditions

Theoretically it should be possible to prevent many of the dental ills endured by children today, including dental caries, gingivitis, malocclusion, and their sequelae. While it is admitted readily that there are exceptions to this, even theoretically, it is not admitted that research has failed to show strong advances in prevention. Dental caries has been reduced materially and in some instances entirely eliminated by placing patients on low carbohydrate diets.

Gingivitis — Gingivitis is more prevalent in children than is generally realized. Usually, however, it is not considered as a serious problem. Detachments of the periodontal membrane in children's mouths seldom occur, but certainly disease should not be permitted to extend to the destruction stage before it is considered worthy of treatment. It has been shown that gingivitis can be treated successfully in the majority of children by removing stains and debris found on the teeth, establishing a well balanced diet, and by strict adherence to daily mouth care.

Malocclusion — Approximately 20 per cent of all malocclusions are associated in varying degrees with one or more of the abnormal mouth habits, such as thumb sucking, finger sucking, lip biting, and tongue habits. Others are attributed to the premature



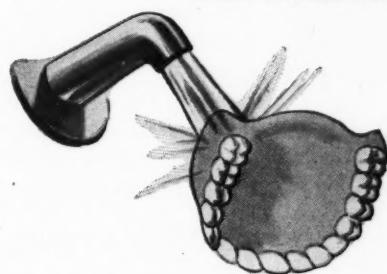
SOAK

*15 minutes daily
in Polident solution.*



RINSE

*Just hold under running
water to rinse clean.*



Dentures "KEEP FIT" with

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EASIER AND SAFER TO USE

Just an extra minute—as your denture patient leaves the chair—is all that's needed to explain how Polident can help those precious new dentures to "keep fit" in all ways.

By dissolving mucin, tarnish and food debris, the Polident *soaking* method keeps dentures fit to be worn . . . fit to be seen—with a minimum of handling, and less danger of breaking or chipping. And best of all, it helps dentures to keep the "fit" you gave them, because it makes abrasive brushing unnecessary.

Polident is, indeed, the *safe, easy way to clean dentures*. Your patients will appreciate your suggestion of Polident!

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"Good to the last crystal — they never get dull!"

Chayes Precision Mounted Points take the
wear and tear out of cavity preparation — for
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They are truly precision cutting instruments.
Precisely shaped, precisely mounted, they run
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abrasive, they are smooth, fast and cool, en-
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Chayes Precision Mounted Points are made
in a wide variety of shapes, sizes and grits, af-
fording a perfectly designed point for every
need.

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available to civilian dentists. You may
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Another LEE SMITH Achievement

A BETTER Oxy-Eugenol Corrective Wash
KREX mixes and handles with great ease
... sets quickly or slowly in the patient's
mouth as the case requires and according
to your own mix... reproduces accurate
detail. Truly a superior product! Order
a box of KREX today and begin making
perfect fitting dentures.



LEE S. SMITH & SON MFG. COMPANY
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loss of deciduous teeth, tardy eruption of permanent teeth, prolonged retention of deciduous teeth, improper dental restorations, and loss of permanent teeth. All these factors can be prevented.

Prevention Measures

In dentistry all prevention is up to the individual immediately concerned. There is no statute that says that any individual who partakes in excessive carbohydrates and develops dental caries has committed an unlawful act. There is no social stigma attached to caries susceptibility as long as the person has his dental ills cared for, at least those which affect the anterior teeth. This is considered proper, even though the parent who partakes of a diet rich in free sugars will probably subject his child to the same diet, and may, therefore, be indirectly responsible for the cavities in the child's teeth. This is not an argument for control by law. It does indicate, however, a doleful lack of public health education, through which the results are of much greater significance than if people are forced by law to follow medical advice.

When prevention is directly up to the individual concerned, a series of closely related problems is disclosed. The person who makes an essential change in his personal habits does so only after a reinterpretation of the value of those habits to his mode of living. He must have faith that the information received from the dentist is reasonably correct; but further than that he must weigh the consequences of following the information against the consequences of not following it. His decision in such a reinterpretation of values will decide whether or not the advice of the dentist will be followed.

Parent-Child Education

When the patient is a parent, another problem arises. Children are deeply affected by their environments. Their values will in a large measure be those of their parents. It is too much to expect children to avoid sugar when their parents partake of it in large quantities. Until

parents are made to see and understand their relationship to their children insofar as habits are concerned, dentistry cannot do much with prevention of dental disease.

It has been suggested recently that children can be used to educate their parents; that talks in the schoolroom would prove of great benefit to the dental health of the pupils, and that through the information brought home by these pupils to their parents the necessary changes in diet, living conditions, home care, and visits to the family dentist would be made. Undoubtedly, some progress is shown by such means, but a child's set of values is established first by association with his parents and second by his emotions.

Conclusions

This does not mean that dentistry should stop its efforts to prevent dental disease by trying to gain the cooperation of its patients, but it should recognize fully the difficulties it faces in undertaking the task. Occasionally a patient is found who will consider the problem as suggested and who will continually reinterpret it in terms of changing conditions. Many will cooperate for a few months, then return to their old habits.

Certainly dentistry shall not give up in its attempt to prevent disease. It shall, however, recognize the difficulty which it confronts in doing so. Further, it shall realize that its course for the present is one of control rather than one of prevention.

—From *Journal of Dentistry for Children* 12:110 (Fourth Quarter) 1945.

An Intra-Oral Splint for Facial Palsy

A. G. ALLEN, L.D.S., and D. W. C. NORTHFIELD, M.S., London

A FUNDAMENTAL principle in the treatment of peripheral nerve injuries is the maintenance of the affected muscles in the position of relaxation, so that they cannot be stretched by their antagonists nor by the force of gravity. This same principle must be

applied to cases of facial paralysis; otherwise the musculature of the opposite side of the face will pull the mouth across, and in time will even cause deviation of the nose and the eyebrow. Although the affected nerve may regenerate successfully, deformity which has been allowed to develop in this way will persist, and permanent disfigurement will result.

Advantages of Splint

1. It is removable for feeding and for cleaning.

2. It is replaced easily by the patient, and has no tendency to pull out when in use.

3. It holds the angle of the mouth exactly in a position of symmetry.

4. It is small and is made of clear plastic, and is, therefore, not conspicuous.

5. The parts in contact with the mucosa are highly polished, and, inasmuch as the plastic is nonirritant, the corner of the mouth does not become sore.

6. The splint also serves as a use-

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Dependable Disinfectant



Here is a disinfecting solution of unusually high germicidal and bacteriostatic potency even in low concentrations, yet so mild that it will not irritate tissue and so compatible with such substances as procaine, tissue fluids, etc., that it can be used freely for intra or extra oral antisepsis.

When you want a disinfectant to maintain the sterility of your hypodermic equipment and other instruments, disinfect your hands prior to operations, disinfect prosthetic appliances, bracket table tops, and for the many other such routine, but important, uses inherent in the dental office, you'll find Zephran Chloride a ready answer.

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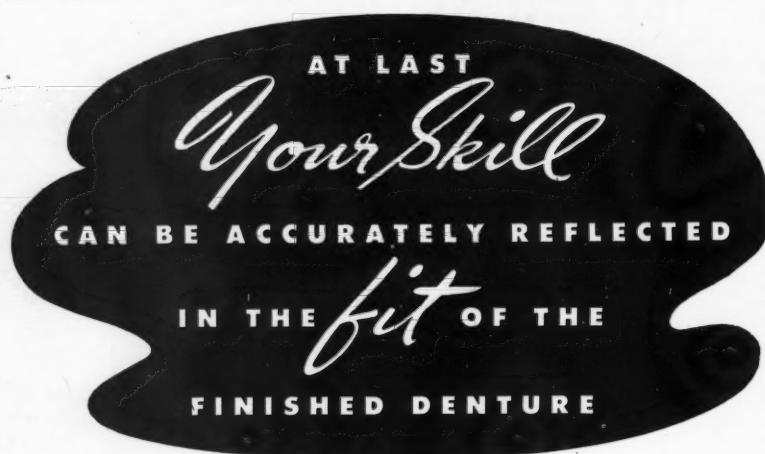
ful guide to the measure of recovery; and when the angle of the mouth moves out of contact with the splint, it is no longer necessary to use the splint.

Construction of Splint

Anchorage—1. When teeth are present the anchorage takes the form of a cast splint, capping one or two teeth, preferably the cuspids or bicuspids, and carrying parallel twin tubes of small bore soldered buccally, with their front ends set about $\frac{1}{2}$ centimeter behind the estimated posi-

tion for facial extension. A molar is useful for anchorage in the absence of other teeth, but its distance from the angle of the mouth makes the facial extension less rigid in its anchorage and more difficult to fit.

2. If the patient is edentulous, a plastic baseplate carries the twin tubes. We have utilized the patient's own full denture for this purpose with success, but the retention of the denture must always be good. The anchorage can be adapted to a partial denture, but again the retentive quality must be high.



Now, for the first time, it is literally true that an accurate impression can be positive assurance of an accurately fitting denture. Heretofore the term "accurate" as applied to a finished case has meant merely the closest approach to complete adaptation that could be attained with existing denture base materials and processing methods.

Today you can have a full denture made with the certain knowledge that it will fit the patient's mouth tissues as snugly and intimately as your own impression—even in those vexatious "problem cases".

The fundamental principles underlying this epochal advancement in denture construction are summarized in the booklet which we shall be glad to mail you at your request. Its few pages we believe will provide you with a logical answer to the problem of denture adaptation.

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D1

Facial Extension—This is similar in all cases. It is a small, saddle-shaped, clear plastic fitment molded to the exact shape of the corner of the mouth, and is carried on twin rods which exactly fit the tubes of the anchorage. The external (visible) part is reduced in size to the minimum necessary to ensure that the angle of the mouth will not slip over it; the connecting bridge is made thin enough to allow the lips to come together, and is strengthened with wire; and the inner part is flared out to give inner support to the cheek.

1. With the anchorage in position in the mouth, a trial wire is inserted into the more suitable of the two tubes, bent around the angle of the mouth, and adjusted to give the correct degree of lift and retraction. The best position is the one which gives symmetry with the mouth relaxed in repose, overcorrecting rather than undercorrecting in case of doubt. Passing a probe between the lips on the sound side and noting its point of contact with, or relation to, a tooth, if repeated on the affected side, is a good guide to position.

2. A thin plaster mix is run into and around the angle of the mouth with the wire in position, in sufficient quantity to ensure contact with the buccal surface of the anchorage. Plaster is used to prevent the deformation of the lax lip tissues which would occur with other impression materials, giving rise to a badly fitting support.

3. The anchorage and impression are removed together, returned to the original model, and the impression is cast.

4. Twin rods are fitted to the tubes, then soldered together at their front ends and extended as a short curved single wire upon which the extension is molded in wax, removed, and processed.

5. The visible part of the extension is camouflaged further by removing the gloss, and the cap splint finally is cemented to the teeth.

—From *The British Dental Journal*
79:213 (October 19) 1945.